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ON

THE PATHOLOGY OF MELANOTIC GROWTHS IN RELATION TO THEIR OPERATIVE TREATMENT.

Delivered before the Royal College of Surgeons of England on Feb. 25th and 27th, 1907,

BY W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR; ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL.

LECTURE I.

Delivered on Feb. 25th.

MR. PRESIDENT AND GENTLEMEN,—The subject of these lectures attracted me on account of the very unfavourable results of operation in melanotic growths, and the belief that these results are capable of improvement is my principal excuse for claiming your attention. I shall deal almost exclusively with those pigmented growths which arise in the skin. My work on the subject was mainly carried out in the Middlesex Hospital Cancer Research Laboratories during my tenure of the "Richard Hollins" Cancer Research Scholarship. To the Cancer Investigation Committee and to the director of the laboratories, Dr. W. S. Lazarus-Barlow, my best thanks are due for the facilities afforded me and for permission to reproduce certain illustrations from the Archives of the Middlesex Hospital.

Many scientific men have held that the pursuit of useful knowledge, as distinct from the pursuit of knowledge for its own sake, degrades both the research and the student below the level of serious consideration. If that is really the case I must confess my unworthiness of the honour which this College has bestowed upon me, an honour which I would here gratefully acknowledge. But the utilitarian aim which is frankly avowed in the title of my lectures hardly needs a defence before an audience in daily contact with the pitiably urgent problems of cancer in the individual.

I have one other object in view. Two years ago I had the privilege of laying before you certain observations on the dissemination of carcinoma, observations which proved that the obscure and insidious process of permeation—the growth of tendril-like cylinders of cancer cells along the finer lymphatics which surround the primary growth—is the main factor in the dissemination of cancer of the breast. On the present occasion I propose to lay before you the results of parallel observations on melanotic sarcoma and to compare and contrast the mode of spread of these two varieties of growth. Only by the separate study of each variety of growth, a long and laborious task, can the element of theory and of unsafe analogy be eliminated from our knowledge of dissemination and from surgical practice. In my opinion, no more urgent piece of work, and none more certain of immediate result, confronts those who are investigating cancer. In this connexion the valuable work of Mr. G. Lenthal Cheatle upon the spread of squamous carcinoma of the tongue and lip, and that of Mr. C. H. Leaf and of Mr. J. F. Dobson upon lymphatic anatomy, deserve more than a passing mention.

The scope of morbid anatomy is by no means restricted to the revelation of details of structure. Its newer methods are capable of throwing light on the physiological problems of cancer and of indicating promising lines of experiment. In illustration of this statement I may be permitted to remind you that the destructive action of the blood on cancer cells, which was demonstrated by M. B. Schmidt in the pulmonary arterioles, and which I inferred independently three years ago from a study of metastatic distribution in the cancer research laboratories of the Middlesex Hospital, has received experimental confirmation in recent work on the prevention and treatment of mouse cancer, both in the laboratories of the Imperial Research Fund[1] and in America.[2] To you, Sir, who are so closely connected with both the institutions I have mentioned it must be a source of pleasure to see their work thus converging from opposite sides upon the same problem. Experimental work and morbid anatomy are the two eyes of cancer research, and to deny the use of either is to forfeit the advantages of binocular vision.

For the sake of convenience it is necessary to depart from the logical order of my subject and to reserve for my second lecture certain problems as to the etiology and nature of malignant melanotic growths and the consideration of their surgical treatment. The present lecture will be concerned with a study of their mode of spread, chiefly based upon the following case.

ABSTRACT OF NECROPSY.

Necropsy No. 186, the Middlesex Hospital, 1905. The body is that of an emaciated woman, aged 34 years. At the insertion of the right tendo Achillis is a small healthy linear scar, where the primary melanotic sarcoma was excised. In Scarpa's triangle on the right side is a considerable mass in the situation of the femoral glands. Beneath the skin over and around this mass are very numerous discrete black nodular growths, occupying an area roughly circular in shape and perhaps eight inches in diameter. (See Fig. 1.) The growths become smaller in all directions the further they are situated from the femoral glands, until apparently healthy skin is reached. On the back, at the level of the tenth dorsal vertebra, there is a patch three inches square studded with similar cutaneous growths. The right breast shows enormous enlargement, and in the skin over the breast are many similar growths. The left breast, though smaller, is in a like condition. Scattered over the front of the thorax and the abdomen are numerous subcutaneous nodules, and there is one on the face in the left malar region. There is far more growth on the right side of the body than on the left. No deposits are present in the skin and subcutaneous tissue of the left leg below the level of the symphysis pubis. There are numerous deposits in the calvaria; a few small nodules are present in the brain and in the thyroid body. Several deposits are found on the posterior surface of the sternum. The cardiac muscle contains numerous nodules and a few are scattered throughout the lungs. The liver weighed 101½ ounces. The only abdominal viscera free from new growth are the spleen, ureters, bladder, and stomach. Numerous nodules are pendent from the mucosa of the intestines. The left femur shows a fracture one inch below the great trochanter, surrounded by a mass of non-pigmented new growth. All the muscles examined show minute specks of melanotic pigment. As regards the lymphatic glands, growth is found in the right femoral and internal iliac glands (and to a less extent in the lumbar glands) and in the cervical and axillary glands on both sides. For the investigation of lymphatic spread in this case it was natural to choose the tissues in the neighbourhood of the largest mass of lymphatic glands—that is to say, the tissues of the right groin. A strip of the parietal tissues passing down the thigh from this mass of glands was removed for examination. It measured 17 cm. in length, and extended from the lower edge of the mass of growth which occupied the situation of the inguinal glands vertically down the anterior surface of the thigh to a point about three inches above the knee. It traversed and passed well below the circum-inguinal area of visible subcutaneous nodules of growth (see Fig. 1). The strip included skin, subcutaneous fat, deep fascia, and a thin layer of muscle. It was frozen and subdivided longitudinally into three thinner strips. One of these was submitted to microscopic examination, while the two other strips, each about three millimeters thick, were mounted as naked-eye specimens.

METHOD OF PREPARATION.

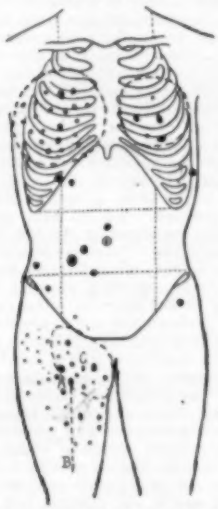
The strips were prepared by a modification of a method which I first employed in 1904 for demonstrating carcinomatous nodules in the parietal tissues in cases of breast cancer. For this purpose long strips of the skin and subjacent parietal tissues radiating in any selected direction from the primary growth were cut from the cadaver and were subsequently stained and rendered translucent. The staining method employed had the defect common to all stains, that it is not specific for cancerous tissues. Moreover, time has shown that the specimens, when mounted in xylol for preservation in a museum, undergo continuous shrinkage and lose their purity of colour, so that after the lapse of two years their deterioration is marked. Melanotic sarcoma offers an ideal field for the application of this method in a simplified form, because the

[1] Brit. Med. Jour., July 28th, 1906.
[2] Gaylord: Medical Record, Oct. 28th, 1906.

specimens can be mounted in an absolutely unstained condition. The dark colouration of this particular variety of growth is the equivalent of a specific stain for malignant tissues, a desideratum which is at present lacking in the case of other growths. The two strips having been frozen and cut were placed in methylated spirit for 12 hours, and subsequently in acetone for a similar period; they were thence transferred to xylol for a few hours, and finally mounted in liquid paraffin (parolein) as museum specimens in flat-sided jars.

The use of acetone as a dehydrating agent in place of absolute alcohol was suggested to me by Dr. Victor Bonney, while the employment of liquid paraffin as a mounting fluid is an improvement due to Mr. Cecil W. Rowntree. In contrast to xylol liquid paraffin is not appreciably volatile; moreover, it is perfectly transparent and tends to make the specimen soft and pliable rather than to harden it. The only remaining doubt, whether it ultimately exercises any deleterious action on the specimen or is itself discoloured by the action of light, can only be settled by the lapse of time.

FIG. 1.



Showing all the visible subcutaneous nodules of melanotic growth present in the anterior aspect of the body, except one on the face. The dotted line A B shows the position and extent of the strip of tissue removed for examination. The dotted circles in the mammary region represent prominent masses of secondary growth in the breasts. Note that the growth was on the right heel and that most of the secondary nodules are situated on the right side of the body.

NAKED-EYE DESCRIPTION OF THE STRIP.

At the end nearest the inguinal glands the subcutaneous tissue is not transparent, but has a ground-glass appearance resembling that of the cornea in keratitis. Further away, towards its distal end, the fatty subcutaneous tissue has cleared perfectly and is quite transparent. As will be seen later the cloudiness of the tissues at the proximal end of the strip is due to round-celled infiltration and fibrous tissue formation; in other words, to the inflammatory reaction which, as I showed in the case of breast-cancer, accompanies the later stages of permeation. The melanotic foci present in the strip stand out in vivid contrast to the normal tissues as black blotches, sinuous lines, and dots (Fig. 2). The blotches represent spherical nodules, while the lines and dots quite clearly represent vessels lying in the plane of the strip or cut transversely as they penetrate it at right angles. The question at once arises, Are these vessels blood-vessels or lymphatics? Evidently the naked-eye appearances must be interpreted by the aid of the microscope, and the question must be for the present reserved.

The next point to notice is that the growth is not invading the tissues in the form of isolated embolic foci scattered at random here and there in the vessels; it is growing along the vessels and choking them up. At various points vessels filled by growth can be traced for some distance along the strip, giving off at intervals smaller branches, which also are full of black material. Besides, the regular distribution of the black lines and dots indicates a complete injection of one or both of the vascular systems, spreading from the glands centrifugally, just as an artificial injection-fluid would spread from its point of introduction.

FIG. 2.

Reproduction of drawing, natural size, of a translucent strip of the skin and underlying tissues taken in a radial direction from the mass of growth in the situation of the inguinal glands to demonstrate the centrifugal spread of permeation. Note that the growth extends much further along the deep fascia than along the skin or in the muscle. A, Skin. B, Subcutaneous fat, separated by the deep fascia from C, a thin layer of muscle.

I will ask you to assume, in anticipation of the microscopic proof, that this process is primarily one of lymphatic permeation. The occurrence in melanotic sarcoma of actual growth along the lymphatics seems to have been first observed and described, though not systematically investigated, by Campbell de Morgan at the Middlesex Hospital. Mr. W. H.

Battle has also described a case in which it occurred. At the risk of being tedious, I must remind you that my investigations on the spread of permeation in breast-cancer[3] showed

FIG. 3.

An artery filled by melanotic growth from the proximal end of Fig. 2.

three zones surrounding the primary growth. Farthest from it is the zone of fascial permeation, where the permeated fascial lymphatic plexus forms the "microscopic growing edge" of the carcinoma. Here there is no interstitial invasion of the tissues; the cancer cells are found only in the interior of the lymphatic vessels and they occur exclusively in the plane of the deep fascia, while the overlying skin and the underlying muscle are normal. Within this region is a zone in which an inflammatory reaction (perilymphatic leucocytosis and fibrosis) has been set up owing to the distension and rupture of the lymphatics by the growing cancer cells which they contain. In this zone cancer cells are seen spreading along the fine tributary lymphatics upwards towards the skin and downwards into the muscles and originating nodular metastases in the lymphatic capillary areas of these layers. Nearest to the primary growth comes a third zone in which all or most of the permeated lymphatics, strangled by their newly-formed envelope of fibrous tissue, have entirely disappeared. Consequently, in this region the only cancerous foci are isolated nodules, becoming larger and invading the tissues to an increasing depth until the primary growth is reached.

Now the process of permeation is largely a mechanical one and its spread around a given focus is chiefly determined, like that of an injection-fluid, along the line of least resistance. If melanotic sarcoma spreads by permeation one would expect that, round the original focus of growth, the same three zones would be present. In this specimen (Fig. 2) each of them is, I think, clearly indicated. Here is the zone of fascial permeation, represented by small black dots and lines upon and just over the deep fascia. The skin and the muscles in this region are quite free from growth. The minuteness of the black lines indicates that the lymphatics have been recently invaded and that they have not yet been distended or ruptured by the growth within them. Somewhat nearer the primary growth, the coarseness of the lines upon the deep fascia indicates rupture of the lymphatics and small nodules are seen in course of formation over and under the deep fascia. The skin is not yet attacked, but arborescent lines of growth are seen running up to it from below. Yet a little nearer the proximal end of the strip the growth has reached and filled up the convergent bundles formed on the under aspect of the dermis by the lymphatics draining the skin into the underlying fascial plexus. Here, too, is seen the first indication of perilymphatic fibrosis—the process which destroys permeated lymphatics—for some of the black lines are vague and moniliform.

We now come to the zone nearest the original focus—the zone of isolated nodules. You will notice the disappearance from the deep fascia of the lines and dots which indicate fascial permeation. But the large nodules which now make their appearance in the various layers are not isolated as in breast-cancer. A network of coarse black lines is still present. This network indicates two fundamental differences between the mode of spread of breast-cancer and that of melanotic sarcoma. First, in melanotic sarcoma the process of perilymphatic fibrosis is only very partially successful in destroying the permeated lymphatics. Secondly, in melanotic sarcoma, as I shall be able to show, blood-vessels are frequently invaded from contiguous permeated lymphatics. The network of coarse black lines at the proximal end of the strip largely consists, not of permeated lymphatics, but of blood-vessels filled by growth.

MICROSCOPIC EXAMINATION OF THE STRIP.

I have now to prove the correctness of the explanation which I have suggested for the appearances seen in the naked-eye specimen. A strip parallel to and adjoining the one which I have just described was divided into nine blocks and examined histologically along its whole length. It would be tedious to plunge into the sea of detail presented by a microscopic section 17 centimetres in length, and I shall briefly summarise the appearances met with in each of the nine blocks, commencing at the end close to the massive gland deposits and travelling radially away from them. A gradual and regular change will be noted as the strip passes

FIG. 4.

× 30. From the proximal end of the strip near the mass of growth which represented the inguinal glands; shows a cylindrical cord of melanotic growth lying unencapsuled in the peri-arterial tissues and replacing the comitant venous and lymphatic vessels. D is the artery, C a small vein containing a cylinder of degenerate growth infiltrated by leucocytes. The circle B shows the situation of Fig. 9.

[3] Cancer of the Breast and its Operative Treatment, by W. Sampson Handley. Murray, 1906.

under review. Briefly speaking, at the proximal end of the strip there is invasion of the arteries and veins, with much round-celled infiltration round the extra-vascular nodules which are present. Towards the distal end no invaded blood-vessels are to be seen, but the lymphatics are filled by fine cylinders of growth. Here there is little evidence of inflammatory reaction and hardly any interstitial invasion of the tissues.

Block 1 shows invasion of arteries and veins, but no reticulum of small permeated lymphatics. Many large nodules are present. Only one cord of growth is present on the deep fascia, probably a large permeated lymphatic which has escaped obliteration. In the subcutaneous tissue is an artery of some size, not accompanied by a vein, filled by degenerate growth (Fig. 3). There is fibrosis of the peri-arterial tissues, which contain here and there granules of pigment and recognisable tumour cells. Deeper down is a normal artery, accompanied by a cord of growth (Fig. 4) which certainly represents its comitant vein, for in it can be seen imbedded remains of muscular tissue. This cord probably replaces also the comitant lymphatics of the artery in question. Some very minute foci of obsolescent growth are present along the fibrous septa which join the skin to the deep fascia. These septa are littered with fine granules of melanotic pigment. As regards the skin, its invasion is not uniform but has occurred at points where the fibrous septa join it. The terminal subdermal expansions of these fibrous septa are densely infiltrated by sarcoma cells.

Block 2.—Save that no artery filled by growth is present the appearances are similar to those seen in Block 1.

Block 3 presents appearances like those in Blocks 1 and 2. It shows an artery filled by growth, the muscular coat of which is infiltrated in its whole thickness by sarcoma cells. Outside the artery are a few recognisable sarcoma cells mixed with round-celled infiltration. The view suggests itself that the artery has been invaded from an adjoining permeated lymphatic which has subsequently undergone fibrosis. A new phenomenon makes its appearance in this block. At various points along the fibrous septa are seen relatively large thin-walled vessels lined by endothelium. Almost certainly they represent distended lymphatics.

Block 4.—Nodular invasion of the skin has ceased. It shows merely one or two spaces lined by endothelium containing malignant cells. At one point an artery containing growth is present in the subcutaneous tissue, at another point are seen an artery and vein, both normal, accompanied by a permeated lymphatic.

FIG. 6.

Normal blood-vessels accompanied by two lymphatics full of melanotic growth. From the zone of fascial permeation towards the distal end of Fig. 2. Photograph by the Pathological Laboratory, Mortimer-street, W.

FIG. 5.

Block 8, close to the deep fascia. 1 in. obj., No. 8 oc. At this point the growth has permeated the lymphatics and is infiltrating the tissues around but has not yet penetrated to the interior of the blood-vessels. A is an artery, B a vein, both normal. C is an endothelium-lined space (lymphatic), permeated by growth which has burst through its walls. D is a permeated lymphatic the wall of which is still unruptured.

Block 5.—Round-celled infiltration round the foci of growth, though still present, is becoming much less marked. No invaded blood-vessels are present either in this block or in the succeeding ones. The zone of permeation of the deep fascial plexus has now been reached and five foci of growth inclosed within endothelial walls are spaced out along the deep fascia. In places normal blood-vessels can be seen close to these spaces (Fig. 7). No large nodules are present in the section.

Block 6.—The appearances are similar to those in the preceding block. About 15 foci of growth, spaced out along the deep fascia, represent the permeated fascial plexus in cross-section (see Fig. 8). At two distinct points an artery and vein, both normal, are seen to be accompanied by two permeated lymphatics (Fig. 6).

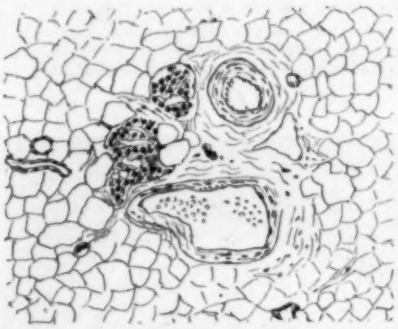
Block 7 resembles Block 6. Here, again, normal blood-vessels are accompanied by permeated lymphatics. About six intravascular foci upon the fascia represent the permeated lymphatic plexus. Some of these lymphatics have ruptured and the growth within them is beginning to infiltrate the tissues. Microscopic invasion of the skin is still present.

Blocks 8 and 9.—These two blocks are characterised by the almost entire absence of round-celled infiltration round the minute foci of growth which are present. About eight of these foci, spaced out along the deep fascia, represent the permeated fascial plexus. No invaded blood-vessels are to be recognised, and at several points normal blood-vessels can be seen lying close to permeated lymphatics. A few scattered minute foci are present in the subcutaneous fat. The skin was unfortunately missing at this end of the strip.

LOCAL DISSEMINATION AROUND THE RIGHT INGUINAL GLANDS.

The spread of subcutaneous nodules in all directions from the invaded mass of inguinal glands (see Fig. 1) indicates the working of a process of local centrifugal spread from point to point around these glands. The nature of this process is made clear by the microscopic findings which have just been described. Its various stages, from the most advanced to the earliest, are seen successively as the selected radial section is traced outwards from the centre of the mass

FIG. 7.



Block 5, close to the deep fascia, ⅔ obj., No. 8 oc. A normal artery and vein are accompanied by two microscopic cords of growth, which doubtless represent their comitant lymphatics. To show that lymphatic invasion precedes invasion of the blood-vessels. Cf. Fig. 6.

of glands. Since the strip was taken down the limb and therefore against the flow of lymph the force of the lymph stream can have taken no share in this process of local centrifugal dissemination, at any rate, in the particular radial section examined.

It is obvious, both from Fig. 2 and from the microscopic sections, that the process is one of continuous growth of sarcoma along the vessels. And since towards the distal end of the strip only the lymphatic vessels are invaded and the blood-vessels are normal it is clear that lymphatic permeation is the initial process in the local centrifugal dissemination which we are discussing and that invasion of the blood-vessels—present only at the proximal end of the strip—is a secondary consequence in point of time, though not in point of importance.

INVASION OF BLOOD-VESSELS FROM COMITANT PERMEATED LYMPHATICS.

The tendency of melanotic sarcoma to spread along the perivascular tissues immediately outside the blood-vessels has been noticed by Borst. His explanation of the fact is a teleological one—namely, that blood is a necessary food for the production of melanin and that consequently the sarcoma cells are attracted towards the blood-vessels by a kind of chemiotaxis. The true explanation appears to be a simple anatomical fact. The lymphatic vessels along which permeation extends usually run in company with arteries and veins.

Figs. 3 to 8 show the various events which lead to the invasion first of veins and later of arteries from comitant permeated lymphatics. Figs. 6 and 7 show two permeated lymphatics lying near normal blood-vessels. Fig. 5 shows the rupture of permeated lymphatics and the proliferation of the sarcoma cells around the walls of the accompanying artery and vein. In Fig. 4 the vein has been infiltrated and destroyed by sarcoma and portions of its muscular wall are imbedded in a cord of growth which accompanies the artery. The artery itself remains intact. The last stage of the process is demonstrated in Fig. 3, where an artery filled by growth can be seen. These observations are parallel to those of Goldmann and Schmidt on the invasion of veins from lymphatics in carcinoma.

THE QUESTION OF SPREAD ALONG THE SKIN.

A glance at Fig. 2 shows that the skin is not invaded nearly so widely as the deep fascia. As in carcinoma of the breast, the question arises how invasion of the skin occurs. Does the growth spread along the hypothetical "deep cutaneous" lymphatic plexus at the junction of the dermis with the subcutaneous fat, as was formerly assumed to be the case in breast-cancer? Between points situated 10 and 12 centimetres along the strip a definite meshwork of black lines in this place can be seen (Fig. 2) and a superficial glance suggests that this network is the permeated "deep cutaneous plexus," and that the growth is in fact spreading slowly in this plane as well as in the plane of the deep fascia.

Closer inspection shows the error of the supposition.[1] Just beyond the furthest point of invasion of the skin the growth is seen creeping up to the skin from below, against the lymph stream, along the vertical tributaries which convey lymph from the skin to the lymphatic plexus of the deep fascia. The fallacious appearance of a permeated deep cutaneous plexus is evidently only a further stage of this process. As Sappey showed, the lymphatic vessels coming from the skin, though they freely interlace, do not form a true plexus at the deep aspect of the dermis. They simply interlace like the entangled boughs of adjacent trees in a thick wood. The only cutaneous lymphatic plexus is the sub-papillary plexus. As in carcinoma, the layers adjoining the plane of the main (deep fascial) lymphatic plexus, are attacked by the upstream extension of permeation along the tributary lymphatics of the fascial plexus.

FIG. 8.

The fascia lata crosses the field vertically. To the left is the subcutaneous fat, to the right the surface of the muscle. Small permeated lymphatics and one large one, which has ruptured, are seen upon the surface of the fascia. In the subcutaneous fat normal blood-vessels are visible accompanied by permeated lymphatics.

REGRESSIVE CHANGES IN MELANOTIC SARCOMA.

The abundant round-celled infiltration present at the proximal end of the strip and the absence from this region of a network of small permeated lymphatics, are clear indications that reparatory processes, inadequate for cure, are not wanting in melanotic sarcoma. Borst has already drawn attention to these regressive processes. Lymphatics and veins invaded by the growth may undergo destruction (if

the patient lives long enough) by a process of local inflammation essentially identical with the process of "perilymphatic fibrosis" which I have described in breast-cancer. Large secondary deposits, and in all probability even the primary growth itself (Fox), may sometimes be destroyed in a similar way. In this connexion my senior colleague, Mr. A. Pearce Gould,[4] has lately recorded a very interesting case:—

H. S., æt. 38, consulted Mr. Pearce Gould on June 23rd, 1903. A congenital mole on the front of his chest had begun to enlarge on June, 1902, and had been excised in October, 1902. A small healthy scar marked the site of the operation. It was soon followed by the appearance of tiny nodules in and under his skin. Mr. Gould found the nodules most numerous on the trunk, but they were scattered over almost the whole surface of the body, save that none were present on the lower limbs below the groins. On July 14th no new nodules had appeared and all the old ones were flatter and smaller. The enlarged glands were also smaller. On the 30th many of the nodules had disappeared altogether; others were present only as black stains, visible but not palpable. The glands had further diminished in size. On Oct. 1st he was found to have gained flesh and only two palpable nodules were present over the whole surface of the body. The glands in the groin were normal, those in the axillæ but slightly enlarged. In February, 1904, two new nodules appeared near the right knee. In March the liver was enlarged and a fresh nodule appeared on the right side of the neck. The patient died in September, 1904, having been confined to his bed for only three or four days. While under Mr. Gould's care he took regularly a pill containing Venice turpentine and sulphur and amended an alcoholic habit which he had formed, but, as Mr. Gould remarks, the regressive changes which occurred were probably independent of these measures.

Mr. R. H. Jocelyn Swan has informed me of a somewhat similar case under his care in which macroscopic nodules of melanotic growth were observed to shrink and disappear.

CONCLUSIONS FROM EXAMINATION OF THE TISSUES IN THE INGUINAL REGION.

1. From the fairly regular distribution of skin nodules around the embolically invaded right inguinal glands it may be inferred that a process of local centrifugal spread, independent of the direction of the lymph current, took place around these glands as a focus.

Examination of a radial strip of the parietal tissues extending from these glands showed:—

2. That permeation of the lymphatics is the principal agent in this local centrifugal spread and that it occurs primarily and most extensively in the plane of the deep fascial lymphatic plexus.

3. Invasion of skin and muscle is due to upstream permeation of the lymphatics which carry lymph from these layers to the fascial lymphatic plexus.

4. Owing to the fact that arteries and veins usually run in close contiguity to lymphatic vessels lymphatic permeation is followed by infiltration of the walls of veins, and later of arteries, and by intrusion of the growth into the lumen of the blood-vessels. The importance of invasion of the veins with regard to pulmonary and systemic dissemination is obvious.

5. The order in time of these various events is deduced from the orderly sequence of processes seen as the strip of tissues is traced from its distal end towards the mass of glands which formed the local centre of infection.

6. Regressive changes, due to inflammation excited by the growth, may occur in melanotic sarcoma.

THE SHARE OF EMBOLISM IN PRODUCING THE METASTASES.

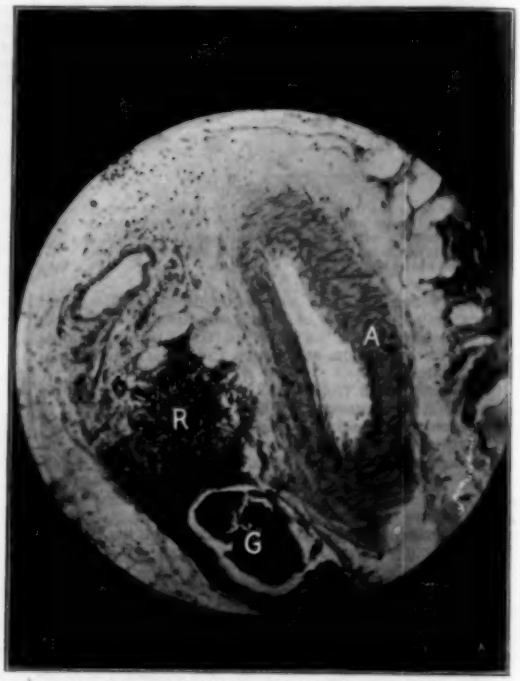
The direct evidence that the majority of the skin nodules present did not originate from emboli carried by the blood stream has already been adduced. It is interesting to note that nearly all the subcutaneous nodules present were situated on the same side as the primary growth. This distribution is inconsistent with the embolic origin of these particular secondary growths, and strongly suggest a process of local spread from point to point. On the other hand, it is probable that most of the visceral deposits, perhaps those in the breasts and a few of the subcutaneous nodules, took their origin in blood embolism. Such an embolic origin could be clearly traced in the kidneys, where the glomerular tufts were occupied in places by melanotic material, which at other points had burst into Bowman's capsule. Although "tissue-predisposition" is doubtless, as Mr. Stephen Paget showed, a factor in the survival of embolised fragments of growth, it is difficult to explain on these lines the relative freedom from metastases of the subcutaneous tissues of the left side, as compared with those of the right side.

As soon as permeation in the lymphatics round the embolically invaded right femoral glands attained a radius of spread reaching to the level of the umbilicus—the dividing line between the territory of the inguinal and the axillary glands—embolic invasion of the axillary glands would occur. Local centrifugal spread around these glands, reaching a maximum in the rich lymphatic network of the breast, would account for the subcutaneous nodules present over the chest and for the mammary masses of growth.

DISSEMINATION AROUND A PRIMARY MELANOTIC SARCOMA.

Since in this case the primary growth had been removed by operation, it was not possible to study centrifugal lymphatic spread around the primary focus, but only around a secondary focus—the embolically invaded inguinal glands of the right side.

FIG. 9.



× 160. Represents, highly magnified, the lower circle B in Fig. 4 and illustrates the reparative processes which occur even in very malignant growths. A is a normal artery. G a mass of growth lying in a space without definite walls, which may be an artefact of the hardening process but in any case probably represents a ruptured lymphatic or vein. The growth G is surrounded by a very dense collection of inflammatory round cells R. In other parts of the section from which Fig. 9 is derived the later stages of perilymphatic fibrosis could be traced.

No opportunity of investigating the spread of permeation round a *primary* focus of melanotic growth has fallen to me. Such opportunities must be extremely rare, for the examination of excised growths is unsatisfactory. But there is no lack of clinical evidence that permeation does occur round the primary growth as the initial step in the process of dissemination, a step soon followed by embolic invasion of the nearest glands along the trunk lymphatics. The appearance of subcutaneous nodules near the scar is one of the commonest sequels to the removal of a melanotic growth. As in the case of breast-cancer such nodules must be regarded as "efflorescences," not as a rule due to insufficient removal of skin but to incomplete removal of the permeated area of the fascial plexus. Generally subcutaneous nodules first appear close to the primary growth and spread from it in all

[4] Pearce Gould: Archives of the Middlesex Hospital, vol. ix.

directions until they may involve almost the whole of the surface of the body. Usually, however, as in breast-cancer, the patient dies before the distal portions of the limbs are affected. Such a mode of spread conclusively proves that blood embolism is not an invariable factor in the dissemination of skin nodules.

The following case[5] may be quoted as a typical one. Others could be adduced if time allowed.

Mr. D., æt. 59, of fair complexion, had a mole situated midway between the umbilicus and the pubes. It commenced to enlarge in 1817, while the surrounding skin assumed a brownish hue. Nine months afterwards the swelling was as large as a hen's egg, of a deep brown colour, firm and fleshy, broader at its apex than at its base and exuding an offensive ichorous fluid from its ulcerated surface. Some few months after the appearance of this tumour several distinct brown nodules of similar structure sprang up around it. Owing to the discomfort and pain arising from the tumour it was excised, but recurred within six weeks. Soon the recurrent tumour was surrounded by tubercles, some distinct, some confluent, of livid colour, at least 40 in number, forming a mass of disease extending from the spine of one os ilium to the other, and bearing some resemblance to a large bunch of dark-coloured grapes. The inguinal glands were enlarged and the tubercles continued to spread. Meantime the patient took exercise and attended to his business. Pains occasionally affected the tumour and adjacent parts, and an early and continued symptom was an excruciating pain just below the left kidney. The urine at times resembled porter. At length the constitutional symptoms became severe, with nausea, anorexia, restlessness, and depression. Dark blue spots arose in the vicinity of a mole on the sternum, others appeared in succession on the sides of the body and back, and very soon upon the forehead and scalp. Dyspnœa and dropsy came on, and his sufferings became severe until death relieved them. At the necropsy the peritoneum was thickly set with nodules, the lumbar and mesenteric glands were much enlarged. The spleen and bladder were the only abdominal organs free from disease. The chest was almost universally invaded. Similar diseased appearances were present on the skull cap and on the fascia covering the temporal muscles. The brain was healthy, and it is specially noted that with the exception of one speck in the leg the extremities were free from the disease.

This case, published in 1820, 14 years after Laennec had described melanotic growths, was the first instance of malignant cutaneous melanoma described in England, and I may be permitted a word of pious reference to its chronicler, Dr. William Norris, a practitioner of Stourbridge. The cares of practice had not destroyed his enthusiasm for pathology, witness the following extract:—

When the abdomen, chest, and cranium were thrown open it was a most extraordinary phenomenon; thousands upon thousands of coal-black spots of circular shape and various sizes were to be seen closely dotting the shining mucous, serous, and fibrous membranes of most of the vital organs: I should think the most dazzling sight ever beheld by morbid anatomist. I shall never forget the pleasing thrill which came over me when I first beheld them. It would have puzzled the most powerful descriptive talent to have done full justice to such a novel and striking disease displayed so beautifully in endless profusion everywhere.

A country practitioner who loved his profession well enough to make a complete necropsy in private practice, and to ride 20 miles for the sight of a case of melanotic sarcoma, must have been in those days rather a rarity. Norris was, in fact, the intellectual grandson of John Hunter, as the pupil of Mr. Causer, one of Hunter's house surgeons. May we not trace in the pioneer work of Norris, in his power of accurate observation and record, and in his keen love of knowledge, the transmission through two generations, and by inference up to the present time, of Hunter's personal influence, and of the best qualities of his mind? The books and collections to which Hunter owes his nominal immortality are perhaps after all the lesser part of the legacy he has left.

As bearing upon the question of centrifugal spread it is of interest to note that when the primary tumour arises near the head the arms are attacked by subcutaneous nodules before the lower extremities; and, indeed, the lower limbs may remain entirely free from nodules until death occurs. Thus Anger[6] records the following case:—

The patient was a woman of sixty, with a tumour as large as a nut upon the left cheek, which had been noticed for four months. Its growth was slow and painless. It was surrounded by four small jet-black tumours. The submaxillary glands were enlarged. Caustic was applied to the primary growth, but the satellite tumours were left alone and did not develop. The patient left the hospital in two months in a satisfactory state, but returned about a month later with multiple tumours of the form and colour of black currants upon the scalp, the neck, the arms, and the anterior and lateral parts of the chest and abdomen. The thighs, legs, and forearms were free from them. She died within a few days of readmission.

A COMPARISON BETWEEN THE MODE OF SPREAD OF CARCINOMA AND THAT OF MELANOTIC SARCOMA.

One of the aims of this research has been to test the conclusions on the spread of breast carcinoma at which I had previously arrived. For if it be granted that sarcoma can obtain access to and can exist within the lymphatic vessels its mode of spread within them must be to a certain extent determined by the same mechanical factors as in the case of carcinoma or of an artificial injection mass. My conclusions on the spread of breast-cancer were necessarily reached by microscopic methods only, but in melanotic sarcoma a direct appeal to the eye becomes possible; and Fig. 2 strengthens my former conclusions by indicating the identity of the mode of spread of melanotic sarcoma in the parietal tissues with the mode of spread which I inferred to take place in breast-cancer.

In the earlier stages the processes of dissemination are essentially identical in carcinoma and in melanotic sarcoma. Dissemination is initiated by the access of malignant cells to the fine lymphatics, followed by the centrifugal spread of permeation along the main lymphatic plexus into which the primary growth pours its lymph, and by secondary permeation of small tributaries of this plexus. Embolic invasion of the regional lymphatic glands occurs and around this fresh focus permeation recommences. Meanwhile, almost invariably in melanotic sarcoma and sometimes in carcinoma, invasion of the blood stream takes place, either by local infiltration of veins from comitant permeated lymphatics, or by malignant cells carried into the blood along the thoracic duct from invaded lymphatic glands. When this stage is reached dissemination in melanotic sarcoma and in carcinoma respectively develops along divergent lines. In carcinoma lymphatic permeation, aided by the escape of cancer cells into the serous cavities, usually remains to the end the main agent in producing secondary growths—a fact which appears to depend upon the almost invariable destruction of such epithelial cells as obtain access to the blood stream. The same mode of dissemination may sometimes occur in melanotic sarcoma, but as a rule the mesoblastic cells of melanotic sarcoma are able to thrive when lodged in a blood-vessel. Thus in the later stages of melanotic sarcoma the slow process of lymphatic permeation usually recedes into insignificance and the patient dies with almost universal deposits resulting from blood embolism—an event which only as a rare exception occurs in carcinoma.

[5] William Norris, M.D.: Eight Cases of Melanosis, 1857; also Edinburgh Medical and Surgical Journal, October, 1820, p. 562.

[6] Anger: Les Mélanomes, Paris, 1866.

The Lumleian Lectures

ON

THE INCREASE OF INSANITY.

Delivered before the Royal College of Physicians of London on March 14th, 19th, and 21st,

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LECTURE II.[1]

Delivered on March 19th.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—This lecture will be devoted to the causes of insanity. I shall only take a few of these such as will indicate sufficiently my views as to the probable increase among the insane. The three principal causes which I shall refer to are hereditary predisposition, alcoholic excess, and the influenzal poisoning.

The whole question of heredity is being studied with so much care that enormous numbers of facts have been added to our knowledge, but as yet no great and directing guide has been discovered, for though one has to accept it as established that no mutilation or established acquisition is transmitted to the offspring, yet I have to maintain that many nervous peculiarities are passed on more or less modified from one generation to another. A considerable part of my lecture will be devoted to my views founded on my experience as to the amount and forms of neurosis which may be transmitted, and probably this is one of the most important questions that I have to consider. It is a very widely spread idea that every case of insanity depends in some way upon nervous inheritance, and certainly the belief that all forms of insanity are equally dangerous, as far as their transmission

[1] Lecture I. was published in THE LANCET of March 30th, p. 855.

is concerned, is very widely spread. If I have succeeded in making anything clear in my first lecture I hope it is that there is no definite form of insanity which is likely to be transmitted. The importance of considering in detail the relationship of inheritance to mental disorders is not only medical but social. It is a question that medical men, especially family medical men, have frequently before them—the danger of marrying into families in which cases of insanity have occurred. In some cases, undoubtedly, alliances of that kind are to be hindered and, if possible, stopped altogether. On the other hand, there are many cases in which insanity of the parent is not more likely to be transmitted in any shape or form to the descendants than an accidental injury or mutilation. In passing, one would say that the same holds good in relationship to consanguineous marriages. It used to be believed that a large percentage of deaf mutes in asylums, and of the imbeciles and idiots who are met with, are the result of consanguineous unions. It is pretty conclusively proved that consanguinity itself is of little or no importance. In fact, if the two blood relations happen to belong to absolutely healthy stock the progeny themselves will have an excellent chance of being healthy. If, on the other hand, there is any tendency to neurosis in the stock, or if there is a tendency to neurosis on the one hand, and to degenerative disorders, such as phthisis, on the other, then undoubtedly the union of blood relations is specially dangerous. In some cases one has seen unions that one would not have advised still turn out quite satisfactory. It therefore is my opinion that although it is undesirable that neurotics should marry one another, yet the marriage of a neurotic with a perfectly sound and healthy individual is much more likely to eradicate the neuroses in the offspring than to accentuate them. It has been thought that some of the increase among the insane depended upon the fact that a large number of patients were now discharged convalescent from asylums before they were really well and that during this period of convalescence they might become pregnant or might beget children who would certainly be predisposed to nervous disorders. The statistics of asylums, especially those given recently from the Irish asylums, do not in any way substantiate this belief. There undoubtedly are cases, and such have come before my immediate notice, in which a patient recently recovered from insanity has become the parent of a child who has been unduly unstable. No statistics, however, are available to show that any increase of insanity depends upon any such cause. I am in the habit of comparing neuroses to the mycelium of a fungus; just as the plant grows unseen beneath the surface and is only recognised by the development of the mushroom or the toadstool, so the inherited neurosis may be hidden and only appear under special conditions. I believe there is a neurotic type, to which I shall have later to refer, which may produce a brilliant result, on the one hand, or, given other conditions, may lead to a disastrous or dangerous product, either criminal or lunatic. It has to be recognised that though insanity itself in a definite form is not transmitted there is a tendency to develop various forms of a neurosis which are transmitted, and I am inclined to think that the increase of insanity at the present time depends to a certain extent upon such transmission.

I would definitely say that mental disorder reaching the line of insanity is to be compared with highly specialised mental capacity—with genius, if you like—and that this is not at all likely to be passed on. The poet, or the distinguished statesman, rarely has similarly gifted children. The lunatic may have defective children, and if the mental disorder is of a grave type, and if the children have been born after there has been definite mental breakdown, idiocy rather than lunacy is to be expected. I feel some hesitancy in dogmatising on the relationship between genius and insanity; the subject has been so frequently handled that I fear little that I could say would add to your knowledge. But I am more and more struck by the fact that any individual who has become markedly conspicuous along any very definite or specialised line has a distinct tendency to transmit not that special ability or capacity but an instability which may lead to mental disorder of one type or another. I would go so far as to say that special capacity or genius, whether it be on the mental or even muscular side, is associated with danger. I may say that in my experience I have seen the neurotic disposition show itself in the descendants of athletes, inventors, poets, statesmen, and the like. The tendency of gifted parents either to have no children at all or to have neurotic children is established. It is not unnatural, and certainly follows the lines of Darwin's observations, that no great special or individual capacity is transmitted. The variation of species, if it has originated by slow additions or slow modifications of existing bodies, must have been associated with transmission of extraordinarily minute changes, and one is more and more convinced that specific changes have not been by leaps and bounds. It is probable that any qualities that are transmitted from parent to child will be small; you do not get a poetic child of a poetic father, but you would get a child with sensory or intellectual instability, a tendency perhaps to emotional display. In fact, tricks of body (extra fingers) and tricks of mind are much more likely to reappear in the children than are the great and marked characteristics. I think most of us recognise that very slight habits are conspicuous by their reappearance in a second or third generation. For instance, I personally have been very much impressed by the transmission of special forms of handwriting. Thus a mother writing a bad hand and a father writing a good one, it has been my frequent experience to find the sons following the type of writing of the mother, the daughters that of the father. And in some such cases the characteristic writing has been very marked, although the children have been brought up away from home almost entirely. In one very interesting case a man, the son of an insane mother, himself sane, married and had a son who was markedly neurotic. He lost his wife, married again, and had a daughter who exhibited similar symptoms of nervous instability to her half-brother. The mothers were both apparently healthy.

Now as to some of my experience in relationship to inheritance and the transmission of neuroses. I have had opportunities of seeing children of an insane mother, a mother who, even during her insanity, lived with her husband and bore children. I have known those children grow up, at all events, into adolescence without any sign of mental disorder. They have been somewhat unstable, that is, emotional, given, perhaps, to infantile rages, predisposed to variations in temperature with but slight cause, with a tendency to dreaminess, and occasionally with certain other minor nervous symptoms. I have, on the other hand, seen children who have been born of a mother who has suffered from puerperal insanity, who, therefore, has not developed the insanity until after the birth of the child, but who yet—if I may refer once more to my simile of the mycelium of the fungus—was practically insane, if not actually insane, during the pregnancy. I have known such children come into the world not insane, but with marked tendency to convulsive seizures, leading ultimately to epilepsy and to moral defects of one kind or another. These individuals are very often good examples of the a-social tendency to the anti-social side of mental disorder. The children of an insane parent may tend rather, as I say, to emotional instability and to moral defect than to actual intellectual want.

Undoubtedly a certain number of idiots are the result of insane parents, but my experience is that a very large percentage of idiots have no distinct insanity in their ancestors. Just as in the common chemical experiment it used to be shown that two colourless solutions when mixed may produce a black solution or precipitate, so it has been my constant experience to find that when a family consists of several idiotic children the parents have not, either of them, been insane, but have, on the other hand, been highly neurotic, or have been peculiar in one way or another, so that without ever having been considered insane, they have been looked upon as unstable and the result has been weak-minded progeny. Doubtless, sooner or later, one may be able to recognise what the types are who, when united, produce such disastrous results. I should give as my experience, too, that a child begotten of a degenerating parent—one, say, broken down from alcoholic excess, from general paralysis of the insane, or from some senile disorder—would very likely be imbecile or idiotic. I have a certain number of special instances in which I have known the result of impregnation by a general paralytic father to have been an idiotic child. It is difficult, however, from a few individual cases, to generalise. Though I do not expect the insane parent to have an insane offspring, yet, as many insane people belong to a specially unstable class, I find the offspring of the insane or highly neurotic to develop certain special forms of nervous disorder.

It will be my duty later to point out special forms of mental disorder which, in my experience, have been clearly related to insane inheritance. It may be said in passing that it is fully recognised that brain tumours, general paralysis of the insane, and many cases of senile dementia have little to do with neurotic inheritance; while, on the other hand, it is manifest that certain forms of delusional insanity, moral insanity, and the insanity of obsessions almost invariably have inheritance of insanity, or allied states, as a partial cause.

We have always to bear in mind, when we meet with insanity in children, that besides inheritance there is association. It is quite certain that the association of an insane parent with children may be extremely dangerous. I have seen very clear and distinct examples of the *folie à deux*, such as the following. A mother is left a widow with two children and a very small amount of money to live upon. She has to change her residence and lives in a poor and meagre way. Avoiding the expense of entertaining friends she and her children live absolutely alone. She gets morbidly suspicious about them and about everybody in the neighbourhood, begins to suspect people of talking about her, of interfering with her, and, perhaps, tampering with her food. This is slowly borne in upon the young children, who in due course develop similar delusions. That, of course, is an extreme case, but it bears out what one wishes to impress upon you, that the association of the insane parent with the child may have a dangerous effect upon the mental stability of the child.

Again, it is not an uncommon experience for me to be consulted about the daughter of some elderly widow who has died after a prolonged mental illness. The daughter has devoted herself body and soul to this mother who has been a chronic or paralytic dement. In due course, after the death of the mother, the daughter begins to wonder whether her mother's symptoms are not reappearing in herself and it has been not an uncommon experience for me to see such a daughter mimicking to a great extent the symptoms of her mother. Expectancy and association have a great deal to do with heredity.

It has been thought that there is a great danger of transmission of the suicidal tendency and I would put it in this way: that I have histories of families many members of which have committed suicide, and in many cases the suicides have occurred in different parts of the world and under different conditions, and apparently without any knowledge of the occurrence of suicide in any other members of the family. This, of course, may or may not be quite accurate. At all events, I have known families in which suicide has been common. Such families undoubtedly belong to the unstable, to the neurotic—that is, to those who are unduly sensitive and unduly emotional. I say that probably there is a tendency to transmit not necessarily melancholia, but emotional states which readily lead to melancholia; and so people who are unusually sensitive and unusually emotional react too readily to painful surroundings and the tendency is to suicide. That definite concrete ideas or delusions should reappear apart from collusion seems to me at least improbable, yet I have had several instances like the following. I was consulted about a girl, aged 20 years, who, being sleepless and depressed, accused herself of the unpardonable sin. After some weeks she improved and finally recovered. Then her father, a bright and prominent business man, called on me and said that for years he had been convinced that he was "the man of sin," that he had committed "the unpardonable sin," and that there was no hope for him. He, being convinced of his doom, had borne it without a word to his family and he was horrified to find its reappearance in his daughter. It is difficult to explain this case, though I should say that a family in which unpardonable sin is talked about and thought about is sure to be impregnated with depressing religious views, which tend to a scriptural interpretation. And thus I would explain the occurrence of a similar idea in a child and in a parent.

Undoubtedly, although one does not get the fully developed delusion often in parent and child, I have seen such cases as the following: A father consulted me about his daughter, saying that she had morbid dreads about trains, about heights, and about being in public places. He said it was very alarming to him, because he himself had similar feelings all his life. That a nervous unstable person should have these similar dreads is common. I am constantly in the habit of seeing children who certainly, by the time they are 12 or 13 years of age, have dreads of heights, dreads of trains, and the like. They belong almost invariably to neurotic and possibly insane stock. That father and daughter should have such ideas is merely saying that under similar conditions similar feelings are similarly interpreted. That bears upon another point which I think is of value and importance. It is, that though these single isolated delusions or ideas may occur in a large number of neurotic people, they do not as a rule tend to further mental disorder; that they resemble in fact the stammer or trick in speech, or facial movements which are so common among the neurotic. There may be a single dominant idea, which recurs but does not lead to further disorder. The person with a stammer may go on all his life stammering, and this may be corrected to a certain extent. And in the same way there are many persons who have mental stammers, if I may use the term, and yet who do not become more insane. In such cases I have been often asked as to the danger of marriage. And I admit that I almost invariably say, "Well, it is quite possible that you may have children who will experience similar feelings to those from which you suffer. If you find them so intolerable to yourself pray warn your children as to the danger of their possessing them. But otherwise I do not think you need be afraid; that is, you need not be afraid if the child be a daughter that she will break down with puerperal insanity, or if he be a son that he is likely to develop general paralysis."

Allied to what I have just said, I would wish to make clear that people belonging to a neurotic stock, people who are likely to transmit the neurotic tendency to their children if they become insane, have certain definite peculiarities. I have observed that it is possible for many of them to have obsessions or monomanias, if one may still use the term; moral and sensory, rather than intellectual defects. But besides this there is a great tendency to develop hallucinations of the senses. I have sometimes felt inclined to say the neurotic are more likely to go out of their senses than out of their minds. Delusional insanity associated with hallucinations of hearing, sight and of the other special senses is common among neurotics. Then it is noteworthy that the person who is of very insane stock is much more likely to break down at certain periods of life. And this, again, is an important point when we are considering the question of the increase in the numbers of the insane. It is pretty certain that a large number of the patients who are now described as suffering from dementia præcox belong to neurotic stock. It is thought that those coming of neurotic stock are more liable to break down under what may be called physiological stress; that with adolescence, with child-bearing, with change of life they are more likely to break down. Next, those belonging to strongly nervous stock are likely to recover at least once, except those cases of quite early developing or developmental insanity. I have long been in the habit of saying that if a person had to become insane it was very much better for his prospects of, at all events, recovering that he should have had an insane parent. The tolerance of recurring attacks of very violent insanity in neurotic persons is extraordinary. I have known members of insane families who have had recurring attacks during 30 and 40 years, attacks of most violent mania or most profound melancholia, which have passed off, leaving no evidence of the tremendous mental storms that have raged. Readily upset as these neurotics are they seem capable of being reset to an unusual degree.

As to the question of inheritance in relationship to the various forms of insanity, I have already pointed out that the types of delusional insanity are specially associated with a neurotic inheritance. I have also said that general paralysis of the insane, as a rule, has but a distant relationship to inheritance. I am inclined to think that with melancholia there is a greater tendency to transmission than with mania or with some other forms of insanity. In melancholia one has such a large amount of disorder, evidenced by changes in the body as well as by changes in the mind, that one is not altogether surprised to find that a tendency to melancholia runs not uncommonly in families. Again, this is of importance in connexion with the question of increase among the insane. A large number of people who now live to 80 years of age, or even more, in asylums are suffering from melancholia. The weight of years is represented by melancholia in some families, and I have known some very distinguished families the members of which when they approach fourscore years exhibit signs of melancholia and end in mental gloom.

I here add some extracts from the Irish Commissioners' reports, giving the opinions of some of the asylum physicians. Taking the percentages seriatim it will be seen that during the decade the proportion of cases in which heredity was a factor in the causation shows a small increase.

Page 7.—So far as the figures at our disposal go, there is no ground for the idea that asylums are breeding places of insanity, turning out every year thousands of patients technically "cured," but with the evil in the blood to beget an infected progeny. No facts have come to my knowledge to warrant such a theory. I find no cases of patients descended from former inmates of the asylum who have been discharged as recovered. It cannot be denied that discharged patients may marry and propagate the disease, but a kind of corrective is supplied in public sentiment which condemns such marriages. The greatest misconceptions prevail as to heredity in its causative relation to insanity. The truth is, mental, like most bodily diseases, are not in themselves directly transmissible. We inherit not insanity but an ill-adjusted nervous system, which may easily collapse beneath an unaccustomed strain. That heredity marks out the lines along which the chartered curses of humanity find easy progress we must believe. (Graham.)

Page 13.—As a result of my observations here and elsewhere I am convinced that heredity is largely accountable for the prevailing insanity. I have frequently had insane parents and their children under treatment at the same time, and sometimes as many as three or four members of the same family. There is no doubt that in many instances the patients are descended from former inmates of the asylum who had been discharged recovered or improved. (Hatchell.)

Page 16.—CAUSES OF INSANITY.—The most prominent of these amongst those admitted has to be recorded as usual under the head of hereditary; 49 out of a total of 113 were assigned this as a cause. This probably does not represent all who might truly be added here—for various reasons we are not always able to arrive at the truth; nine were said to be caused by congenital defects. (Harvey.)

Page 19.—Heredity exercises its influence chiefly at adolescence, and when the exciting cause which has brought on the attack has been removed the patient usually recovers, often marries, and has a family more or less liable to insanity, epilepsy, or some neurotic disease. (Woods.)

Page 21.—In connexion with the question of heredity, which undoubtedly is one of the most important considerations in connexion with the problem of insanity, it is a consolation to know, as the outcome of modern research, that the old pessimistic doctrine of a hopelessly handicapped posterity springing from insane progenitors is no longer absolute. (Nolan.)

Page 49.—We therefore find that a preponderance of the cases breaking out without well-marked exogenous cause in the time of late boyhood or early manhood are cases in which there is some strong hereditary tendency, or cases that are stigmatised from the first either by definite physical defects and malformations or by distinct nervous instability. These are, in other words, cases of constitutional or primordial predisposition. (Conolly Norman.)

Page 51.—With regard to the great question of heredity, it is easy to attribute an undue importance to this factor. I do not go so far as to deny, as some have done in modern times, that it is a factor at all, but I must point out that it is extremely indefinite. With a disease so common as insanity, if those who are hereditarily tainted constituted a distinct class, that fact would soon be patent to the world. But they do not, and this suggests that the incidence of insanity is scattered pretty generally through the population. It is true that the more carefully one examines into the family history of sufferers from mental unsoundness the more sure one is to come across cases of mental and other nervous diseases. But, on the other hand, when one has an opportunity of examining a family history, starting from a person who is not of unsound mind, one comes across mental and nervous disease quite in a similar way. Indeed, as far as I am able to judge, facts bear out speculation, and everyone has insane relations, nearer, as the case may be, or more remote. Heredity would be much more often assigned to insanity than it is were it not for the reticence and the ignorance of relatives, but this would make little difference in the nature of the problem. Of course, no clinical observer of experience has failed to recognise families in which the liability to insanity is strong, and even tends to increase, till it terminates in the destruction of the stock. But in the majority of cases heredity can hardly be regarded as more than a disposition, common to our race, a little stronger in one than in another, and usually requiring some second or contributing agency to make it operative.

The statistics given in Table IV., under the heading of heredity, cannot be quite accurate, as may be gathered from what has been said above, but the tendency has been to give greater weight to heredity as the years went on, and no increase under this head has been noticeable. Now with regard to the specific question as to whether an appreciable increase in the number of the insane has been brought about through the discharge of recovered patients who have then propagated the species, reproducing their kind, I have only to say that neither the statistics of this asylum n[illegible]e facts of my own experience give any support to this notion. (C[illegible]y Norman.)

Melancholic states are much more likely to occur, I think, in families than are maniacal conditions; that of all forms of hereditary insanity, those associated with hallucinations of the senses and with definite obsessions and marked delusions are common; that with a strong inheritance there is a tendency to moral defect as well as to imbecility and idiocy; that consanguinity alone is not to be looked upon as very dangerous. I take it for granted that there is no such thing as inheritance of any function as such, but only the transmission of the physical capacity or predisposition to react in certain definite ways under certain definite stimulation. Thus, the power to learn to speak exists, but not the special tendency to speak in one language. Again, manual aptitudes may be present, but there is no special transmission of power to perform definite acts in definite ways. The power of rapidly varying in relationship to a rapidly changing surrounding is represented by still more and more mobile organic compounds. The possession of such mobile combinations tends to instability; and, after all, we have to consider neurosis as nothing but a special form of instability. Such instability may be represented by brilliant genius or feeble inconsequence. As already pointed out, various neuroses are allied and may in some cases be interchangeable. Neurotic instability and tendency to insanity may depend on causes of physical weakness in a parent, yet unstable parents may have normal children. Atavism is not so marked in insanity as in some forms of physical peculiarity. It is not true that all forms of insanity are easily transmitted to the offspring. Healthy mating, too, may get rid of the tendency, or may result in but a slight tendency to tricks, habits, or manners representing the neurosis in the parent. Strong neurotic inheritance will often show itself in special forms of nervous disorder in childhood and adolescence, and, again, in anti-social or criminal tendencies.

THE AREA OF "ACUTE ABDOMINAL CONFLUX" AND THE "INCISION OF INCIDENCE."

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IN the acute abdomen, notwithstanding an exhaustive inquiry into the previous history and present illness, a thorough abdominal, rectal (and in the case of a woman vaginal) examination, an inspection of the vomit and excreta, if any, a close scrutiny of the various hernial rings, and a second examination after the patient has been brought under the influence of the anæsthetic, yet in a certain proportion of cases the surgeon will be in doubt as to the nature of the illness with which he has to deal. This is owing to the fact that the general symptoms—pain, collapse, vomiting, followed by distension—are common to most, if not all, of the conditions producing the acute abdomen, while the distinguishing features of any particular affection may be absent. A perforated duodenal ulcer, for instance, may be indistinguishable from an acute perforative or gangrenous appendicitis; the latter may simulate acute intestinal obstruction from various causes, a gangrenous pancreatitis may imitate an acute perforation of the digestive tract, and so on. In such cases the surgeon only knows that an acute abdominal catastrophe has occurred and he feels certain that, humanly speaking, the only chance lies in immediate operation. Many of these patients have been ill two or three days or longer, their abdomens are distended, rendering examination negative, and their general condition is bad. In these unfavourable circumstances the surgeon is conscious that if he is fortunate enough to hit on the source of mischief at once and succeeds in remedying it without undue delay, the patient's life may be saved. If, on the other hand, he is not so fortunate and a prolonged search, followed possibly by a second incision or evisceration, is needed, though the operation may be concluded successfully, the ordeal will have been beyond the patient's power to survive. We then frequently hear that, "though the operation was perfectly successful, the patient died the next day"—a somewhat paradoxical and poor consolation. If as a result of his examination the surgeon arrives at a probable diagnosis he will usually make his incision over the suspected organ—and rightly so, too, even though he should turn out to be wrong. But should his examination leave him completely in the dark as to its nature, where is he to make it? It is generally advised that the exploratory incision be made in the middle line below the umbilicus and the whole or part of the hand be introduced to ascertain the source of the trouble. The intention of the present paper is to question the soundness of this advice and to advocate the right semilunar line as the position of election. We are dealing with a question of probabilities. The objective in view is to hit on the source of mischief as quickly as possible, to avoid a prolonged search and a second incision. This desirable end is not to be attained in *every* case by making the incision in *any* position. But in these desperate illnesses where the avoidance of delay and of difficulties is the very condition of success, the incision which hits the mark in the majority of cases is the one that

will give the best aggregate of results and should be generally adopted, even though in individual cases it may be found wanting. If the surgeon makes a probable diagnosis he usually explores over the suspected area. If he cannot, he should explore over the area which in the acute abdomen is *always* to be suspected.

The œsophageal opening of the stomach is situated behind the seventh costal cartilage of the left side, about one inch from the sternum. Drop a perpendicular line, which for purposes of reference may be called (*a*), from this point to Poupart's ligament. Next draw a line, called in the same way (*b*), from the right anterior superior iliac spine perpendicularly upwards to the lower border of the thorax. Within the area bordered by these two lines almost every acute abdominal crisis either must occur, or, as a matter of fact, does occur. It may be termed the "area of acute abdominal conflux." It may be subdivided into an upper and a lower compartment by a horizontal line at the level of the umbilicus. The incision which will lay bare this area is a vertical one midway between the lines (*a*) and (*b*)—i.e., one just about the outer border of the right rectus. This may therefore be called the "incision of incidence" in the acute abdomen.

The factors in the production of the acute abdomen will now be briefly considered with reference to their locality. It is assumed that a strangulated hernia at one of the rings has been excluded. This usually presents no difficulty. These factors may be divided into three classes: (I.) those that can only occur within the area; (I.) those that may occur either within or without the area; and (III.) those that can only occur without the area.

Class I. (those that can only occur within the area) includes (1) appendicitis (excluding the rare condition transposition); (2) pericæcal herniæ; (3) right ruptured pyosalpinx; (4) right ruptured ectopic gestation; (5) acute gall-bladder complications, suppurative cholecystitis and choledochitis, perforation, and gangrene; (6) perforation of a duodenal ulcer; (7) perforation of a gastric ulcer; (8) hernia through the foramen of Winslow; (9) right diaphragmatic hernia; and (10) hernia duodeno-jejunalis, the mouth of the fossa, the seat of strangulation, being at the junction of the duodenum and jejunum and looking to the right.

Class II. (those that may occur either within or without the area) includes:—1. Intussusception. According to Warren in about one-third of all cases no palpable tumour is present. Out of 109 consecutive cases occurring at St. Thomas's Hospital 75 were ileo-cæcal, 12 enteric, 5 ileo-colic, 5 colic, and 12 were double or unusual forms. Wiggin found in 103 cases 89 per cent. of the ileo-cæcal variety. Intussusception, therefore, does occur far more frequently within the area than without it. 2. Obstruction by Meckel's diverticulum. This is usually attached to the lower ileum within three feet of the ileo-cæcal valve. It is situated, therefore, usually within the area. 3. Obstruction by bands and adhesions. These are usually the result of previous attacks of localised peritonitis. Such peritonitis has its most frequent origin in inflammations of the appendix, Fallopian tubes, gall-bladder, duodenum and stomach (ulcer), peritoneum, mesenteric glands, and intestine (tubercle). Post-operative bands are excluded, because in these cases the surgeon would not be without a clue, which in this paper is supposed to be wanting. It will be seen that the great majority of organs usually giving rise to localised peritonitis and the consequent formation of bands are situated within the area. Of the 101 cases of strangulation in Fitz's table (which includes: adhesions, 63; vitelline remains, 21; adherent appendix, 6; mesenteric and omental slits, 6; peritoneal pouches and openings, 3; adherent tube, 1; and peduncular tumour, 1), in 67 per cent. the strangulation was in the right iliac fossa—i.e., within the lower area of acute abdominal conflux. 4. Obturation of the intestine by a foreign body (most commonly gall-stones, rarely enteroliths, worms, and tumours). The lower ileum is the narrowest part of the intestinal tract. Foreign bodies are, therefore, most frequently, as might have been expected, arrested there—i.e., within the area. Tumours of the bowel are usually malignant, occur in the large intestine, and most frequently give rise to chronic obstruction. Such tumours as fibromata, myomata, and lipomata are exceedingly rare. 5. Perforation of typhoid ulcers. This occasionally has taken place in the ambulatory form of the disease, when the patient was not suspected to be suffering from typhoid fever. Out of 362 cases in Harte's and Ashurst's series, in 73 per cent. the perforation was found within 12 inches of the cæcum; next most frequently in the appendix; and, lastly, in the ascending colon, all positions within the area. In Harte's and Ashurst's table of operation for these cases the right iliac incision gives the lowest mortality. 6. Perforation of tuberculous ulcers. These ulcers are most commonly found in the ileum, cæcum, and colon. Should they perforate, they would do so in the majority of cases within the area. 7. In cases of chronic mechanical obstruction of the large intestine, due mostly to malignant disease in the sigmoid, splenic flexure, &c., perforation occasionally takes place somewhere on the proximal side of the growth. The most common situation for this is in the cæcum—i.e., within the area. 8. Volvulus and knots. The most common site of volvulus is the sigmoid flexure (50 per cent. in Fitz's table)—i.e., outside the area. The next most common sites are the cæcum and the lower part of the ileum, both within the area. 9. Twisting of an ovarian or fibroid pedicle. This may occur either within or without the area. A palpable tumour would be likely to be present in these cases. If not, the condition could probably be readily detected and dealt with from the right semilunar incision. 10. Gangrene due to embolism of the superior mesenteric artery or thrombosis of the mesenteric veins. In the former, if the embolus is arrested in the main vessel, the terminal portion of the ileum will at all events be involved, the length of intestine becoming gangrenous varying with the size of the embolus. The terminal portion of the ileum lies within the area. If the embolus be arrested in the right or middle colic artery the resulting gangrene will likewise take place within the area. 11. Strangulated diaphragmatic hernia. Though left diaphragmatic hernia is much more common than right, the hernial openings in this condition are generally found on either side close to the median line (the œsophageal opening gaps between the sternal and costal portions of the muscle and similar gaps between the lumbar and costal portions of the muscle). The mouth of the hernia will usually, therefore, be found within the area.

Class III. (those that can only occur without the area) includes: (1) volvulus of the sigmoid flexure; (2) inter-sigmoid hernia; (3) left ruptured pyosalpinx; (4) left ruptured ectopic gestation; and (5) left diaphragmatic hernia (rarely).

Many of the factors enumerated in the above table are exceedingly rare; others are common. Of the latter it will be seen, on referring to the tables given above, that a large number of them must originate within the area of acute abdominal conflux. They are appendicitis, acute gall-bladder affections, perforated gastric and duodenal ulcers, right ruptured ectopic gestation, right ruptured pyosalpinx, and less common gangrenous pancreatitis. Rare conditions, pericæcal hernia, hernia through the foramen of Winslow, right diaphragmatic hernia, and hernia duodeno-jejunalis (the mouth of the sac), must also occur within the area. Of the factors that may give rise to the acute abdomen either within or without the area we find as a matter of experience that all of them, with two exceptions (volvulus and twisted ovarian or fibroid pedicle) actually do give rise to it far more frequently within than without the area. Intussusception, obstruction by Meckel's diverticulum, obstruction by bands and adhesions, obturation of the intestine by a foreign body, perforation of typhoid, tuberculous or stercoral ulcers, diaphragmatic hernia, and gangrene from embolism of the superior mesenteric artery, do occur far most commonly here. The only conditions that must occur outside the area are volvulus and knots and bands involving the left portion of the intestine, left ruptured ectopic gestation, left ruptured pyosalpinx, and the very rare condition inter-sigmoid hernia.

We may next separate our patients into two classes by a known factor—sex. In the case of a male, ectopic gestation, pyosalpinx, and twisted pedicles, ovarian or fibroid, are excluded. We thus arrive at the fact that every condition producing the acute abdomen, with the single exceptions of volvulus and the very rare complication inter-sigmoid hernia, either must occur within the area of acute abdominal conflux or, as a matter of fact, most commonly does do so. If the patient be a woman the preponderance is not quite so overwhelming owing to the possible pelvic complications on the left side, which have been enumerated. But even here the excess is very large.

The practical conclusion from the above consideration is that in a case of the acute abdomen of doubtful origin the incision which will expose and give ready access to this area

is that of election. This incision lies in the right semilunar line and has been previously named the "incision of incidence." The usual practice is to make the incision in the mid-line below the umbilicus and to introduce the hand for the purpose of exploring the abdomen by touch. There is no doubt that with increased experience within the abdomen the tactile sense becomes educated and examination thereby becomes intelligent and purposeful. But all who are called upon to open the abdomen may not be in possession of the tactile skill, which practice alone bestows, and, moreover, even to those who have had large experience within the abdomen, an ounce of sight is worth a ton of touch. The actually seeing the condition enables us to take in the whole situation at once. Such information touch alone rarely affords. Moreover, the examination by touch in those cases in which exposure fails can be just as well conducted through an incision in the right semilunar as in the median line.

For these reasons the following routine is recommended as the operation of exploration in the acute abdomen of doubtful origin. An incision should be made, large enough to give plenty of room, just within the outer border of the right rectus, commencing about the level of the umbilicus and continued downwards. Turning the rectus inwards the peritoneal cavity is opened. By the aid of retractors the lower area of acute abdominal conflux is exposed. This should be explored first because the appendix is far the most common defaulter in the acute abdomen. In a series of 456 cases of the acute abdomen occurring at St. Thomas's Hospital during the years 1900, 1901, and 1902 37 per cent. were due to the appendix and its complications. This incision will also give access to, if present, right ruptured ectopic gestation, right ruptured pyosalpinx, and pericæcal hernia. It will in addition give information as to the state of the large bowel, whether empty or the reverse, in cases of obstruction and indicate whether the obstruction is in the large or small intestine. In those cases, too, where the general condition of the patient warrants no more than the establishment of an artificial anus this can be accomplished at the seat of election, the cæcum being used for this purpose if distended, and if collapsed a point as low down as possible in the ileum will be accessible, which is the indication in such cases. It will also in all probability expose an intussusception, obstruction by Meckel's diverticulum, obturation of the intestine by a foreign body, and perforation of typhoid, tuberculous, or stercoral ulcers. If the cause of the trouble is not in this area the hand can be passed into the incision and the umbilical ring and hernial rings on both sides, as well as the contents of the left pelvis, can be explored by touch. Should success not reward the surgeon's efforts the incision should be prolonged upwards, the rectus shelled out of its sheath, and the peritoneal opening enlarged into the upper area of acute abdominal conflux, the lower area already explored being packed off with gauze. Here he will obtain direct access to acute gall-bladder conditions, perforated duodenal and gastric ulcers, acute gangrenous pancreatitis, the mouth of a hernia duodeno-jejunalis, hernia into the foramen of Winslow, diaphragmatic hernia (usually), and probably bands and adhesions if not found in the lower area. To deal with some of these conditions, for instance, an ulcer near the cardiac end of the stomach, the incision would probably have to be extended inwards along the lower border of the ribs. Finally, if the cause is not discovered, which will be very unlikely, the hand can be introduced through the incision and the rest of the abdominal cavity explored by touch just as well as through a median incision. Of course, it hardly requires insisting that incidents occurring during the course of the exploration would in some cases modify this routine method. If, for instance, on opening the abdomen in the lower right quadrant free blood were found in the peritoneal cavity, the surgeon would naturally go down into the pelvis at once for a ruptured ectopic gestation. If, again, he found gas or stomach contents he would prolong the incision at once upwards, &c. All rules have their exceptions. The object of this paper is to indicate the general plan on which the acute abdomen should be explored and to demonstrate the method which is most likely to reward our efforts in cases which are always difficult. It is not contended that it must rigidly be adhered to in every case.

To sum up, the advantages claimed for this incision in comparison with the median incision are: 1. That it directly exposes to sight that part of the abdominal cavity which in a large proportion of cases *must* contain the offending organ and which in another large proportion of cases does as a matter of fact do so. 2. That therefore in the large majority of cases it will enable the surgeon to deal directly with the offending organ and without the necessity for any second incision unless this be required for drainage. 3. That for these reasons it makes, in the majority of cases, for the avoidance of delay and difficulty, two essentials of success in these operations, and will therefore give the best aggregate of results. 4. That in the minority of cases, in which it fails to expose the offending organ, the abdomen can be examined by touch just as well through the right semilunar as through the median incision. 5. That in those cases of intestinal obstruction where the patient can bear no more than the establishment of an artificial anus it is close to the seat of election for this operation—the cæcum or lower ileum.

All surgeons who are much engaged with the acute abdomen must experience how frequently the condition producing it is encountered between the lines (*a*) and (*b*) within the area of acute abdominal conflux, how comparatively seldom to the left of (*a*). To expose the former is, therefore, I venture to submit, the clear indication. In a series of 53 consecutive acute abdominal illnesses, for which I have recently operated (except one which was under my care but in which the operation was performed by a London surgeon), no less than 33, or 62·2 per cent., almost certainly had their origin in the appendix. I say "almost certainly" because in a few of them, in which a localised abscess was present, the appendix was not removed, although it was practically assured that that organ was the source of the mischief. The remaining 20 were constituted as in the following table:—

Condition.	No.	Locality of mischief.
Ruptured ectopic gestation.	5	Three right, two left.
Acute double salpingitis.	1	—
Acute intestinal obstruction.	1	Band in right iliac fossa.
"	1	Gall-stone impacted at the ileo-cæcal valve.
"	2	Malignant disease of the cæcum.
Perforation of stercoral ulcer.	1	Cæcum.
Perforation of gastric ulcer.	1	Near cardiac end.
Acute intussusception without tumour.	1	Right iliac region.
Acute hæmorrhagic pancreatitis.	1	Swelling to the left of the median line.
Acute gall-bladder and bile-duct infections.	3	Right hypochondrium.
Acute suppurative peritonitis of doubtful origin.	3	Pus evacuated by right semilunar incision.

Dealing first with the last three in the series, in all of them pus was evacuated by a right semilunar incision, but two of them were so ill that no further procedure was possible. One from the history probably had its origin in the appendix; another was not due to appendix disease, as the appendix was exposed at the operation, but the cause was not ascertained. The third case was one of suppurative peritonitis in a man, where a most thorough exploration of the abdominal viscera on the lines indicated in this paper was conducted, but without result. The patient died the next day and a very careful post-mortem examination under my own supervision failed to indicate the origin of the mischief.

Excluding these three cases of doubtful origin we have in 14 out of 17 the source of trouble within the area of acute abdominal conflux, so that out of the whole series of 53 cases no less than 33, plus 14—i.e., 47, or 90 per cent.—occurred within this area, and in an additional three pus was evacuated from it, though the source of it could not be ascertained. Of the 53 cases, in 43 a certain or probable diagnosis was made and the incision was planned to meet their requirements. In the remaining 10 either no further diagnosis was made than that an acute abdominal crisis had occurred, requiring immediate surgical interference, or where a diagnosis was made as to the condition (acute obstruction, for instance) none was arrived at as to locality. These were cases of acute perforative appendicitis with general peritonitis (six), obstruction by a band (one), obstruction due to a gall-stone impacted at the ileo-cæcal valve (one), acute obstruction consequent on malignant disease of the cæcum

(one), acute intussusception without tumour or rectal hæmorrhage (one), and acute hæmorrhagic pancreatitis (one). In all of these, with two exceptions, the exploratory incision was made in the right semilunar line and exposed the source of the trouble at once. The exceptions were the case of hæmorrhagic pancreatitis, in which a swelling was present in the upper abdomen to the left of the median line and the incision was made over it; and one of the cases of suppurative appendicitis, in which no diagnosis was arrived at, and the incision was made in the middle line below the umbilicus by a London surgeon. It would have been better, as the case turned out, to have made it in the right semilunar line. The above brief analysis, though from the limited number of cases necessarily incomplete, confirms by actual practice the conclusion as to the semilunar incision being the correct one.

In conclusion, the acute abdomen should be explored early. It must be confessed that in spite of the advance in abdominal surgery during the past quarter of a century, reducing the mortality of operations performed in the cold stage, however severe, to almost insignificant proportions, the acute abdomen remains a *bête noire* with its high mortality. The reasons are not difficult to assign. They are difficulty in diagnosis, drugs, and delay. A patient is seized suddenly with acute abdominal pain, vomiting, and collapse. It may be nothing more than an acute colic. I have myself seen apparently very severe symptoms, indistinguishable in their onset from those of a perforated appendix, for instance, produced by the administration of a couple of colocynth pills. In an hour or two of course they disappeared. Probably every practitioner can recall experiences of acute abdominal symptoms, which caused him a few hours of grave anxiety as to what had happened, but the outcome of which demonstrated that his fears were unfounded. Like symptoms, on the other hand, may be due to a serious abdominal catastrophe, in which every hour of delay in opening the abdomen materially lessens the patient's prospect of recovery. Every acute abdomen, it goes without saying, should therefore be watched from hour to hour, with the determination ever uppermost in the practitioner's mind to summon the surgeon should improvement not rapidly set in. During this interval, if there be one, morphine should not be given if it can be avoided. But it cannot always be avoided, and in such cases the minimal dose which will meet the requirements of the case should be administered. If, as has been insisted upon over and over again, the necessity for a second dose arises it should be a golden rule to invite the surgeon to see the case first. When a patient is under the influence of morphine it is well-nigh impossible to gauge the magnitude of the disaster. A patient with a perforated appendix, as I have myself witnessed, may, under its delusive sway, sit up in bed, look cheerful, and say he feels all right, and his aspect and pulse may not indicate that he is not. If the initial symptoms do not rapidly abate (and morphine, if it has been administered, must be allowed for in estimating such abatement), or if after the affect of the drug is wearing off they recur, they point almost certainly to no passing or trifling condition but to one of the serious catastrophes requiring probably immediate operation. Should the practitioner not intend to operate himself then it is manifest that the sooner the surgeon sees the case in consultation with him the better, and inasmuch as the latter has to bear the responsibility of the result of the operation it is only fair to give him every chance of insuring its success. In case of failure it is generally thought and said that the patient died from the operation, whereas in reality in most cases it is the want of operation which has killed the patient. So long as a patient with the acute abdomen is given a trial of medical treatment first for two or three days, and then, when it is evident he is not going to get better, the surgeon is called in to operate, so long as this is a common practice the mortality will inevitably be high. It cannot be denied that during the last quarter of a century the surgeon has become greedy. He has become worse. He has become omnivorous, encroaching from all sides on the province of the physician, and the latter would be more than human if he felt no reluctance to part with his cherished preserves. This is the irony of the ever-swinging pendulum. A quarter of a century ago the surgeon was not required in the acute abdomen. He is required now. By a swing in the opposite direction it is safe to say that the physician of the future will get back his own, and possibly more than his own, in other fields owing to the discovery of methods less rude and more scientific than the knife. But knowledge as at present vouchsafed to us has constituted the acute abdomen a surgical affection. The most cursory glance at the factors concerned in its production must convince any practitioner how lucky it will be if the patient survives it without surgical aid. It is true that a patient after perforation of a gastric ulcer may recover. There is proof on record that it has occurred. It is true that intestine may slip under a band and, after giving rise to acute obstruction, may slip back again; that a gall-stone blocking the bowel may be passed *per vias naturales;* that a patient after being at death's door from internal hæmorrhage owing to a ruptured ectopic gestation may recover. But it will not, I think, be questioned that the chances of such lucky terminations are infinitesimal compared with the prospect of recovery if the patient is operated upon and the lesion remedied before complications have arisen which from their nature must go far to negative the success of any operation, however skilfully and carefully performed.

Southsea.

AMYL NITRITE IN HÆMOPTYSIS.[1]

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THE occurrence of hæmoptysis is nearly always an alarming symptom both to the patient and his friends and to the physician. The patient is usually very frightened, especially if he has never had a hæmorrhage before and till then has apparently been in good health, though I have known of patients with considerable amounts of bleeding who have pursued their ordinary work afterwards till something or other has pulled them up and compelled them to consult their medical man. To the majority of physicians, too, hæmorrhage is, I think, one of those symptoms that we are glad to see the last of, for till recently our methods and appliances for its treatment have not been on the whole satisfactory, so much so that one writer remarks that "the cessation of hæmorrhage after the exhibition of a drug is in itself no proof that the effect was produced by the drug."[2] In ordinary practice, by the time that the medical man can reach the patient suffering from hæmoptysis, the bleeding, if profuse, will probably have proved fatal, while if only slight the first alarming symptoms will have subsided and the bleeding may be ceasing spontaneously. In sanatorium work, however, the physician is usually able to be called at the very outset and has to be prepared to act promptly, for even what appears to be only going to be a small hæmorrhage may rapidly increase and prove fatal in a few minutes, as happened in a case that I shall mention presently. This being so, it follows that we should like to have available a drug or drugs which will act promptly and effectively. Until recently we have had to be content with drugs which—though theoretically of the correct therapeutic action—have been far from satisfactory, and perhaps largely so because of the difficulty of administration and because of their comparatively slow action.

It will be a long time before I forget the sense of helplessness that I felt in the case just referred to where the patient—a man with moderately advanced mischief in a fairly quiescent state, apparently in ordinary health—walked upstairs one evening to his room and at once came out again, spitting up a little blood and asked another patient whom he met to go for the doctor. My partner went up at once and found him sitting on the edge of the bed, coughing up blood freely, and by the time that I arrived he had brought up a large quantity of blood and was almost unconscious and it was a puzzle to know whether to give morphine to try to check the cough and bleeding, or to give strychnine to try to stimulate him to cough up the blood already effused into the lungs. However, he died almost before anything could be done, but I have often wondered since—if he had been given an inhalation of nitrite of amyl as soon as he was seen—whether his life might not have been saved, or, at any rate, prolonged a little.

Of the drugs which are usually used in a case of hæmor-

[1] A paper read before the Denbigh and Flint division of the North Wales branch of the British Medical Association, Wrexham, on Feb. 15th, 1907.

[2] Dr. W. E. DIXON: THE LANCET, March 24th, 1906, p. 826.

rhage—viz., ergot, adrenalin, morphine, calcium chloride or lactate—I do not think that any are of supreme value but there is no doubt that several may help considerably if there is time for them to act, though Dr. W. E. Dixon in a recent article already quoted says that "the tannins, adrenalin, digitalis, and its allies, ergot, veratrine, barium, and lead, are all worse than useless for hæmoptysis."[3] Morphine usually proves of some use but should be used with discretion. Its action in quietening a nervous, excitable patient, slowing and weakening the heart, and dilating the vessels, combined with its ease of administration hypodermically, is often of great value but at the same time must be remembered its action in depressing the respiratory centre and so checking cough, for it seems to me that it is often of doubtful value to check the cough, especially in those cases where there has been a fairly sharp hæmorrhage. For though to check the cough may undoubtedly help to check the bleeding, at the same time it tends to cause accumulation in the air passages of the blood already effused, and if the blood be retained it will almost certainly decompose and form a most favourable medium for the development of any number of septic and other organisms which will probably land the patient into septic pneumonia or a rapid extension of his tuberculous condition. So that it seems to me to be better—unless the patient is greatly alarmed and excited or the cough is irritable and useless—not to give morphine at all, or else to delay doing so until as much effused blood as possible has been coughed up. Meanwhile much may be done to calm an excited patient by giving directions quietly and telling him exactly what to do in restraining useless cough and in breathing regularly and gently.

Calcium salts—the best being perhaps the lactate—in profuse hæmoptysis are useless because of the time they take to act but may prove useful in cases where the bleeding continues for some days. The lactate is best given in one dose of 60 grains, repeated if necessary in a day or so.

The drug, however, which seems to me to be most valuable in practically all cases of hæmoptysis is nitrite of amyl. At first sight it appears to be madness to give a patient with a wounded and bleeding vessel a drug which acts powerfully as a dilator of vessels but—even though its action be only transient—it produces such an immediate fall in the general blood pressure by dilatation of the vessels throughout the body that the pressure at the bleeding point is lowered and there is time for clotting to take place and the hæmoptysis usually ceases almost instantly. Even if the pulmonary vessels are dilated the ill-effects are more than counterbalanced by the fall in blood pressure, but Dr. Francis W. E. Hare (who first suggested the use of nitrite of amyl) quotes in an article in the first number of the *British Journal of Tuberculosis*[4] experiments which seem to prove that it has a direct vaso-constrictor action on the vessels of the pulmonary periphery in spite of a vaso-dilator action elsewhere. It may, however, be urged that this constriction of the pulmonary vessels is bad in that it must raise the blood pressure in those vessels, but this seems to be more than counterbalanced by the fall in general pressure, whereas in the case of adrenalin, ergot, &c., there is no corresponding fall in general pressure. Moreover, nitrite of amyl causes no reactionary pulmonary hyperæmia (after the anæmia), while adrenalin apparently does, for I have heard of a cyst being removed by a "bloodless" operation under cocaine and adrenalin and next day a large clot of blood being found in the place which the cyst had occupied. Again, nitrite of amyl has a further good point and that is the fact that it does not interfere with coughing and so does not place any obstacle in the way of the patient getting rid of the effused blood and hence it considerably lessens the risk of septic trouble later.

I now always carry three-minim capsules of amyl nitrite and as soon as I am called to a case of hæmoptysis break one and tell the patient to inhale it quietly and regularly and at the same time warn him of the feeling of fulness in the head it produces as I found this feeling had alarmed one or two patients. The bleeding usually stops almost at once, though the patient may go on coughing up clotted blood which has been already effused. After that, if the patient is excited or alarmed, or the lungs appear to be irritable, I may give a hypodermic of morphine. From my experience of its action, however, I believe that in nitrite of amyl we have the best drug to administer first in any case of hæmorrhage.

The following are brief notes of cases which have been treated with nitrite of amyl and may be of interest.

CASE 1.—A youth, aged 19 years, with most of the right lung consolidated, without any cavities, had a slight hæmoptysis (about half an ounce) one evening. It ceased for the time being after inhaling three minims of nitrite of amyl, though for the next three days he brought up blood-stained sputum.

CASE 2.—This patient had advanced mischief in both lungs and had many hæmorrhages at various times. On March 1st he had a small sharp hæmorrhage which was followed during the next few days by several small attacks, all of which promptly yielded to inhalations of nitrite of amyl. He was placed on liquor calcii chloridi and the blood gradually disappeared from his sputum. On May 8th he had another short hæmorrhage which yielded at once to amyl nitrite, though he continued to bring up bright coloured sputum for a couple of days, apparently from a recently formed cavity. On the 17th he brought up three-quarters of a pint of blood and this attack stopped after two capsules of amyl nitrite and morphine (quarter of a grain). On the next day at 5 P.M. he brought up two or three mouthfuls of bright blood which ceased after an inhalation. On the next day (May 19th) he started a profuse hæmorrhage and at once inhaled the contents of a capsule and was then given another by the nurse. When I arrived a minute or two later he appeared to be dying, though the bleeding had apparently ceased. His heart was beating irregularly and feebly and his pulse was scarcely perceptible. I gave him a quarter of a grain of morphine, and he revived and vomited a quantity of blood which with what he had coughed up came to two pints. There was no further hæmorrhage, but he died ten days later. In this case I am convinced that the nitrite of amyl saved him from immediate death on several occasions.

CASE 3.—This patient had a cirrhosed left lung of several years' standing, active mischief throughout the right lung, and a dilated irregular heart. He had seven attacks of hæmoptysis during three days (several being fairly sharp) and all yielded more or less promptly to inhalations of amyl nitrite. He died a day later from sudden heart failure.

CASE 4.—This patient had tuberculous mischief throughout the left lung and had three attacks of hæmoptysis. The first stopped at once with one inhalation, but the next two did not yield so promptly, perhaps because he did not have sufficient nitrite as he did not have the feeling of fulness in the head to the same extent as on the first occasion.

CASE 5.—This patient—a nervous, excitable man—had several attacks of hæmoptysis at intervals of a few days which were all fairly promptly checked by inhalations of nitrite of amyl, though he sometimes continued to bring up brightly coloured sputum for a short time afterwards.

In all there are about 22 attacks of hæmoptysis occurring in five patients, and in the whole of them the bleeding ceased at once or was remarkably diminished directly after the administration of the nitrite of amyl, so that it seems impossible not to ascribe the good effects to this drug.

Ruthin, North Wales.

[3] Ibid.

[4] Dr. F. W. E. Hare: British Journal of Tuberculosis, January, 1907, p. 58.

ASEPTIC AND SEPTIC MIDWIFERY AT THE LIVERPOOL WORKHOUSE HOSPITAL.

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AT the Liverpool Workhouse Hospital the obstetric wards are under the charge of the visiting surgeon and this is the reason that a general surgeon like myself reports the obstetrical work done in that institution during 1906. Being a surgeon, I look at obstetrics from a surgical point of view, and I consider the ragged, roughened area on the internal surface of the uterus that is left after a confinement to be for all practical purposes a *wound*, for which nature has provided an aseptic treatment of an unrivalled character, and one which meddlesome midwives do their best to upset, but which true obstetricians more and more respect. When sepsis does occur the treatment is pure surgery, modified by the position of the *wound*, and so-called puerperal fever is

is no sense of the term a fever such as the eruptive or continued fevers are, but is a *wound* fever and should be treated as such.

I shall enter no further here into these important questions, but after this brief confession of faith will proceed to describe under what conditions labours are attended at Brownlow Hill, the results of such treatment, and finally describe our treatment of some septic cases that were sent in by the medical officer of health and the measure of success which we attained by such treatment. In conclusion, I will offer some suggestions as to the management of obstetric cases in private practice amongst the poorer classes, based on an experience of many years. A thorough system of aseptic surgery is in force in the surgical wards of the workhouse hospital and this system has been gradually introduced as far as possible into the obstetrical department. These wards are in a wing of the general hospital and form part of an old building that is very much out of date for hospital purposes. The life of the old building has been prolonged up to the present only by the careful and strict use first of the antiseptic system of surgery and now of the aseptic system. Had the older systems of surgery been in vogue the whole hospital would have been pulled down long ago as unhealthy and unsuitable. We receive no assistance, therefore, from structural arrangements, but whatever success we obtain is in spite of obsolete hospital construction. Whenever a patient is admitted to the wards (which form also a training school for midwives and monthly nurses) the nurse to whom the patient is allotted by the superintendent midwife washes her hands in soap and water, scrubs them well, and soaks them for three minutes in a solution of perchloride of mercury, 1 in 1000, and proceeds to ascertain if the patient is in labour or not. If not in labour she is sent to a division of the workhouse to await that event, sleeping every night in a room adjacent to the lying-in ward. Should she be in labour her temperature is taken, and if above normal the patient is sent to another division to be confined, being attended there by the lying-in nurses. If the temperature is normal and should time allow, the patient is bathed, vulvar hair is removed, and the external parts are well washed with ethereal soap. She is dressed in warmed and thoroughly cleaned night clothes and put to bed. The mattress of the bed contains clean straw that has not been used for a bed before. The vagina is now washed out with a quart of solution of perchloride of mercury (1 in 1000). After the completion of the cleansing process the patient is given some warm milk to drink and is ready for the process of labour. The above is the usual proceeding modified by the exigencies of each case. Having again washed her hands the nurse brings a basin of izal (one drachm to the pint) and sets it beside the bed so that she may dip her hands in it frequently during the labour. We tried the Condy and oxalic method of cleansing the nurses' hands, and the surgeons still use it in operative cases, but with the nurses who have to cleanse their hands so frequently each day it caused so much irritation that it had to be abandoned and milder methods adopted.

As few digital examinations are made as possible, but the patient is closely watched both by the eye and finger for any sign of abnormality during confinement. This is reported to the head midwife who if necessary sends for the senior house surgeon or one of the two house surgeons who are always on the premises. After the labour is over a piece of iodoform-gauze is applied to any abrasions or lacerations and a sterilised pad of cotton wool inclosed in gauze is applied to the vulva. This is changed about four times a day or oftener if necessary. At the end of 24 hours the patient is removed from the labour ward to the lying-in ward, where another new and clean bed awaits her, having a small crib at the side of the bed for the baby. At the end of a week she is removed to the convalescent ward to a third new clean bed where she remains till her discharge, which generally takes place about a fortnight after the confinement. Should any patient become decidedly feverish from any cause she is removed at once from the obstetric department and treated by nurses having no connexion with the obstetric wards. Patients delivered on the street on their way to the wards are not admitted into the obstetric wards but into another division so as to keep the obstetric wards as free as possible from all dangers of infections, either puerperal or general. No visiting by friends is allowed in the obstetric wards. The results of all these precautions for the year ending 1906 are given below. Total number of labours, 401; married, 218; single, 183; primiparæ, 157. Admitted in labour, 248; from workhouse, 148; and from lock, 5. Maternity mortality, 3—viz., the forty-sixth, the 181st, and the 357th case.

Causes of maternal deaths.—Case 46, a primipara, aged 22 years, admitted with albuminuria and eclampsia. Delivered of twins, fits continued after labour, and in spite of treatment ended in coma and death. Case 181, aged 31 years, was admitted blanched and bleeding from placenta prævia. The bleeding had been going on for 24 hours. Version was performed and the child delivered. She had an attack of a low form of pneumonia and phlebitis from which she never recovered, but died after repeated relapses on July 18th, exactly a month after; no necropsy was allowed. Case 387, aged 23 years, was admitted from lock with gonorrhœal discharge and secondary ulceration of the labia. She was delivered naturally and easily, the temperature on admission being normal. The next morning she had a rigor, double pneumonia set in, and she died from that disease three days afterwards. The uterine organs were normal as verified by post-mortem examination.

Births.—Males 203, females 204; twins six times.

Infantile mortality.—Debility after birth, 21; stillborn, 7; decomposed and premature, 31.

Presentations.—Head, 377; breech, 14; foot, 7; transverse, 5; brow, 1; and face, 3. Cord prolapsed twice with head presentations.

Operations.—Forceps, 13; version, podalic, 6; cephalic, 3.

Complications, maternal.—Accidental hæmorrhage, 7; albuminuria, 8; placenta prævia, 6; eclampsia, 3; adherent placenta, 4; and pneumonia, 1. In 2 cases of placenta prævia the head came down and labour terminated naturally.

Complications, infantile.—Ophthalmia neonatorum, 1.

Mothers sent to other wards on account of being febrile, 4.

During the year 17 pupil midwives were trained here and they all succeeded in passing the Central Midwives Board at their first entrance. Nine probationers were allowed a month's practice in the obstetric wards and will be able to act as monthly nurses should occasion arise in their general nursing practice. All the pupil midwives have had two years and nine months' training in the general medical and surgical wards before they enter upon the three months' training in the obstetric wards by which they complete their three years' hospital training. Our pupil midwives consequently possess an amount of professional knowledge that few pupil midwives at the beginning of their period of training possess and are consequently much easier to teach.

I will next give a summary of cases of puerperal sepsis treated in the Workhouse Hospital, Liverpool, during 1906, all of which, except four, were admitted from the city of Liverpool, having been notified as puerperal fever—viz., 32 cases with 11 deaths, or a mortality of 36·5 per cent.

CASE 1.—Multipara, aged 33 years, admitted from town Dec. 31st, 1905. Confined nine days before admission. Comatose; purulent discharge from uterus. Treatment: uterine and vaginal douches; ergot, quinine, oxygen, stimulants. Result: death, Jan. 5th, 1906. No post-mortem examination.

CASE 2.—Primipara, aged 22 years, from workhouse lying-in, two days after confinement. Ruptured perineum. Temperature 105° F. from sixth to tenth day after confinement. Discharge from uterus. Abscess in left broad ligament, opened per vaginam. Treatment: uterine and vaginal douches; ergot, quinine, and strychnine. Discharged well, April 24th, 1906.

CASE 3.—Multipara, aged 39 years. Admitted from town Jan. 24th, 1906, ten days after abortion caused by a fall downstairs, followed by severe flooding. On admission her temperature was 104° F. There were a purulent uterine discharge and general septicæmia. Treatment: uterine douches, curetting; ergot, quinine, strychnine, stimulants. Result: death Feb. 7th, 1906. No post-mortem examination.

CASE 4.—Multipara, aged 42 years. Admitted from town Feb. 9th, 1906, 17 days after abortion; uterine hæmorrhage daily since. Patient in state of collapse, constant vomiting, and diarrhœa. Purulent and hæmorrhagic discharge from uterus. Treatment: uterine and vaginal douches; ergot, quinine, strychnine, stimulants. Result: death Feb. 13th, 1906. No post-mortem examination.

CASE 5.—A woman, aged 25 years. Admitted from town March 5th, 1906 12 days after abortion; three or four months pregnant; severe hæmorrhage for three days; purulent uterine discharge; double pneumonia. Treatment: uterine and vaginal douches, poultices; ergot, quinine, strychnine, digitalis, stimulants. Result: death March 6th, 1906.

CASE 6.—Multipara, aged 40 years. Admitted from town March 6th, 1906, six days after confinement; attended by midwife. Purulent uterine discharge; pneumonia, with a low temperature. Treatment: uterine and vaginal douches; ergot, quinine, strychnine, am. carb., and stimulants; poultices for pneumonia. Result: discharged well March 13th, 1906.

CASE 7.—Multipara, aged 36 years. Admitted from town March 10th, 1906, two weeks after confinement; attended by midwife and medical man. Purulent uterine discharge beginning ten days after confinement. Treatment: uterine and vaginal douches; ergot, quinine Result: discharged well March 26th, 1906.

CASE 8.—A woman, aged 38 years. Admitted from town March 23rd, 1906, ten days after confinement; attended by a midwife. Purulent

uterine discharge. Treatment: douches of weak creolin; ergot and quinine. Result: discharged well April 9th, 1906.

CASE 9.—Multipara, aged 24 years. Admitted from town April 9th, 1906. Confined three weeks before. Quite well a week when healthy discharge stopped and fever and flooding and finally pneumonia set in. On admission her temperature was 105° F. and the pulse was 120. Pneumonia and purulent uterine discharge. Treatment: douches, poultices; ergot, quinine, strychnine, stimulants. Result: discharged well.

CASE 10.—Multipara, aged 30 years. Admitted May 30th, 1906, four days after confinement. Purulent uterine discharge, vomiting, pneumonia. Attended by a midwife. Treatment: douches, poultices; ergot, spiritus ammoniæ aromaticus, quinine, stimulants. Result: discharged well June 11th, 1906.

CASE 11.—A woman, aged 25 years. Admitted from town June 1st, 1906, one week after confinement; was attended by midwife. Purulent uterine discharge, melancholia, bronchitis. Treatment: douches, poultices; ergot, quinine, strychnine, stimulants. Result: discharged cured June 20th, 1906.

CASE 12.—A woman, aged 22 years. Admitted from workhouse lying-in July 11th, 1906. Confined 24 hours of very decomposed child. Purulent uterine discharge. Temperature 102° F. Treatment: douches; ergot, quinine, stimulants. Result: discharged well July 21st, 1906.

CASE 13.—Primipara, aged 21 years. Admitted from town June 5th, 1906, with a diagnosis of puerperal fever two weeks after confinement; was attended by midwife. Temperature 105° F.; pulse 128. Purulent hæmorrhagic uterine discharge. Pleuro-pneumonia, vomiting, but no peritonitis. Treatment: douches, poultices; ergot, quinine, strychnine, strophanthus, ammonia, stimulants. Result: death June 14th, 1906. No post-mortem examination.

CASE 14.—Primipara, aged 20 years. Admitted from town July 7th, 1906, 12 days after confinement; attended by midwife. Became febrile on third day—i.e., nine days before admission. Purulent uterine discharge. Treatment: douches; uterus packed with cyanide gauze; ergot, quinine. Result: discharged cured July 19th, 1906.

CASE 15.—Primipara, aged 22 years, admitted from town 12 days after confinement. Temperature 103° F.; some delirium. Purulent discharge from uterus, thick, yellow, and offensive. Treatment: uterine douches; ergot, quinine. Result: discharged well, August 11th, 1906.

CASE 16.—A woman, aged 37 years. Admitted from town August 27th, 1906. Said she had an abortion two months ago. Pale and weak. Treatment: ergot and douches. Result: discharged well Sept. 13th, 1906.

CASE 17.—Primipara, aged 19 years. Admitted from town Sept. 13th, 1906, ten days after confinement. Pulse 104; respirations 29. Delirious and noisy. Purulent uterine discharge. Diarrhœa, vomiting. Bronchitis. Treatment: uterine douches, stupes; ergot, quinine, stimulants. Result: discharged well Oct. 18th, 1906.

CASE 18.—A woman, aged 23 years. Admitted from town Oct. 15th, 1906, ten days after confinement; attended by a midwife. Temperature 103·2° F.; pulse 116; respirations 44. Purulent hæmorrhagic discharge, vomiting, bronchitis. Treatment: douches, poultices; ergot, quinine, strychnine, morphine, stimulants. Result: discharged well Nov. 9th, 1906.

CASE 19.—Multipara, aged 36 years. Admitted from town Oct. 9th, 1906, 16 days after confinement; attended by midwife and medical man. Purulent discharge, semi-comatose, bronchitis, albuminuria. Treatment: douches, poultices; ergot, quinine, strychnine, stimulants. Result: discharged well Nov. 6th, 1906.

CASE 20.—A woman, aged 24 years. Admitted from town Oct. 23rd, 1906, nine days after confinement; attended by midwife and medical man. Purulent hæmorrhagic discharge from uterus, diarrhœa, vomiting. Treatment: douches, stupes; ergot, quinine. Discharged well Nov. 8th, 1906.

CASE 21.—Multipara, aged 41 years. Admitted from town Oct. 18th, 1906, six days after confinement; attended by midwife and medical man. Temperature 103·4° F.; pulse 132; respirations 28. Rupture of perineum, phlebitis, purulent discharge, vomiting, diarrhœa. Treatment: douches, stupes, linimentum belladonnæ to legs; ergot, quinine, strychnine, digitalis, stimulants. Uterus curetted and packed with gauze. Glass tube left in uterus for one week. Result: discharged well Dec. 23rd, 1906.

CASE 22.—Multipara, aged 34 years. Confined two days before admission. Temperature 102° F. Vaginal discharge hæmorrhagic and offensive. Pain in abdomen. Treatment: stupes, douche; quinine. Result: discharged well Oct. 19th, 1906.

CASE 23.—A woman, aged 28 years. Admitted from workhouse lying-in, Nov. 24th, 1906, where two days before she was delivered of decomposed child; attended by pupil midwife. Purulent discharge, vomiting, diarrhœa, bronchitis. Treatment: douches, poultices, stupes; ergot, quinine, digitalis, strychnine, stimulants. Glass drainage-tube in uterus for one week. Discharged well, Jan. 2nd, 1907.

CASE 24.—Multipara, aged 38 years. Admitted from town Nov. 16th, 1906, eight days after confinement; attended by midwife. Purulent discharge, bronchitis; looked starved. Treatment: douches, stupes; ergot, quinine, strychnine, digitalis, stimulants. Discharged well Jan. 8th, 1907.

CASE 25.—A woman, aged 29 years, admitted from town Nov. 28th, 1906, very weak and ill, 12 days after confinement; attended by midwife. Temperature 102° F.; pulse 138; respirations 32. Purulent hæmorrhagic uterine discharge, vomiting, diarrhœa, bronchitis. Treatment: douches, poultices, stupes; ergot, quinine, strychnine, stimulants. Result: discharged well, Dec. 28th, 1906.

CASE 26.—Multipara, aged 30 years. Admitted from town Dec. 4th, 1906, five days after confinement; attended by a midwife. Patient in a state of collapse, delirious, cyanosed. Purulent discharge, peritonitis. Temperature 104° F.; pulse 166; respirations 36. Treatment: douche, poultices, stupes; strychnine, quinine, digitalis, stimulants. Result: died nine hours after admission. No post-mortem examination.

CASE 27.—Primipara, aged 22 years. Admitted from town Dec. 5th, 1906, seven days after confinement; attended by midwife. Delirious, badly lacerated. Purulent hæmorrhagic discharge. Temperature 104° F.; pulse 160; respirations 48. Treatment: douches, stupes; nutrient enemata, ergot, quinine, strychnine, digitalis, stimulants. Result: death Dec. 7th, 1906. No post-mortem examination.

CASE 28.—A woman, aged 28 years. Admitted from town Dec. 5th, 1906, ten days after confinement; attended by midwife. Delirious; abdomen distended, purulent discharge from uterus, bronchitis. Temperature 104·6° F.; pulse 134; respirations 38. Treatment: douches, stupes, poultices; ergot, quinine, strychnine, digitalis, stimulants. Result: death Dec. 11th, 1906. Post-mortem examination, purulent peritonitis.

CASE 29.—A woman, aged 31 years. Admitted from town Dec. 11th, 1906, five days after confinement; attended by midwife. Vomiting, diarrhœa, double pneumonia, purulent discharge from uterus. Temperature 103·8° F.; pulse 124; respirations 36. Treatment: douches, poultices, steam tent; ergot, quinine, strychnine, digitalis, stimulants. Death Dec. 14th, 1906. Post-mortem examination, septic uterus, double pneumonia.

CASE 30.—Multipara, aged 32 years. Admitted from town Dec. 13th, 1906, three days after confinement; attended by midwife. Vomiting, abdomen distended and tender, purulent hæmorrhagic discharge from uterus, bronchitis. Treatment: douches, stupes, poultices; ergot, quinine, strychnine, digitalis, stimulants. Result: death Dec. 15th, 1906. Post-mortem examination, purulent peritonitis.

CASE 31.—Multipara, aged 27 years. Admitted from town Dec. 17th, 1906, six days after confinement. Diarrhœa, vomiting, pain in abdomen, purulent discharge from uterus, right basal pneumonia. Treatment: douche; ergot, quinine, strychnine, digitalis, ether, alcohol, Valentine's meat juice hypodermically. Result: death Dec. 17th, 1906; no post-mortem examination.

CASE 32.—From our own lying-in and recorded in our maternal mortality.

For the notes of these cases I am indebted to Dr. John T. Moore, resident medical officer, to whose careful douching and unfailing assiduity the saving of the lives of several of these poor women may be justly attributed.

Considering the class of woman confined at the Liverpool Workhouse Hospital, the results of the year's work in the obstetrical wards are about as good as we can reasonably expect. A study of the three maternal deaths will show that none of them can be laid at the door of the hospital, but were all cases with serious complications that often lie beyond the powers of medical science. The obstetrical wards of the Liverpool Workhouse have always been remarkable for their low maternal mortality, and thanks to aseptic midwifery this low mortality is not only maintained but is placed on a much surer foundation than formerly. At intervals in the past, though rarely, we had to evacuate our obstetrical wards and flee to a remote part of the building for a time until the fever-stricken wards were purified. We have not had to beat a retreat for many years and while the aseptic system is maintained as at present we do not expect any such retreat to be ever necessary. Obstetric wards can now compete favourably with private midwifery practice, as 0·74 per cent. is a very creditable mortality amongst the lowest class of mothers.

When a patient after confinement in our obstetric wards becomes feverish she is removed to an isolation ward not connected with our lying-in ward. Here if the pyrexia survives movement of the bowels or if the lochia are at all affected the uterus is douched out with perchloride of mercury succeeded by boric lotion. This operation is always performed by one of the medical staff. It is an operation requiring skill and judgment and should not be undertaken by most nurses. Quinine and ergot are the medicines we use in order to produce uterine contraction and to control pyrexia and the treatment is generally rapidly successful. These attacks of pyrexia mostly occur where decomposed children are brought forth and such cases are very amenable to treatment. Sometimes a single douching is all that is necessary. Sometimes two or three are required, but rarely more in our own cases. In some cases, both of our own and of the outside cases, the uterus did not drain satisfactorily and the temperature soon rose again after douching, the os closing and the flaccid walls of the womb that have lost their contractile force lie together harbouring pools of septic material. In two such cases it will be noticed that we inserted a drainage-tube into the uterus with a most beneficial effect. In another case we packed the uterus with double cyanide gauze, in another case we curetted, in another we opened a broad ligament abscess, and by following up the lesions from point to point on surgical principles in this way we certainly diminished the mortality very materially.

I have given a brief summary of 28 cases admitted from town to our hospital wards, most of which were admitted by the orders of the medical officer of health. Some of these were moribund on admission and died a few hours after. Others were hopeless, although they lived for two or three days after admission, but in not one of these cases, although in nearly all of them the uterus was septic, did we have any history of the uterus having been washed out before admission. In several of the cases where the condition of the patient was sufficiently alarming on admission the thorough washing-out of the uterus acted like a charm, and I suspect that many of the fatal cases might have been

saved by this very simple procedure. But the use of the term "puerperal fever" seems to produce a feeling of mystery and of dread in regard to the poor sufferers, insomuch that medical men as well as midwives avoid close contact or even any connexion with a puerperal case. The disease is looked upon in the same way that scarlet fever and erysipelas are looked upon, and the only desire is to get rid of the patient as soon as possible. When asepsis falls in an operation wound the surgeon does not act in this manner. He opens up the wound, drains it, or washes it out with an antiseptic, taking care, by the use of gloves, antiseptics, &c., that his hands and dress are not polluted through his attention to such a case. The same course could, and should, be carried out in obstetrics. But it must be carried out by medical men, not by midwives. It seems to me that all the midwives of a district should be under the supervision of a medical man whose attention should be called to all cases of pyrexia in the lying-in period and to whom all confinements in his district should be reported each morning as they take place, and for whose well-being he would be considered responsible. He should be well remunerated for his services and it should be understood that his duty was to ascertain and to remove all preventable causes of puerperal mortality. He would guide and encourage midwives in their efforts to carry out aseptic midwifery. At present punishment by suspension is what the midwife has to fear, but this only occurs in flagrant cases, especially where death has occurred, and is a poor satisfaction to mourning relatives, and may be hard on the midwife who perhaps tried to obtain the help of a medical man but could not. The Midwives Act is defective in that it does not afford to the poor honest women of the country anything like as complete facilities in their confinements as those which the Poor-law affords to the pauper mothers who are confined under its patronage.

Liverpool.

A CASE OF MULTIPLE CIRCUMSCRIBED LIPOMATA TREATED WITH ETHYLATE OF SODIUM.

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THE following case of multiple circumscribed lipomata is of interest owing to the remarkable improvement under treatment.

The patient, a male, aged 31 years, came under my care at the hospital in June, 1903, complaining of "swellings under the skin" with considerable itching over some of them.

History of the "swellings."—In 1895, when the patient was 24 years old, he noticed a swelling somewhat smaller than a cherry on the flexor aspect of the right forearm. It itched a good deal, and as it slowly increased in size he went to Guy's Hospital, where it was excised. About a year later a second swelling appeared on the flexor aspect of the left forearm. So far as the patient can tell, no other swelling became visible till 1900 (i.e., nearly four years later). Between 1900 and 1903 they rapidly increased in number on the arms, legs, and trunk, and the larger ones caused itching.

Condition of swellings in June, 1903.—The swellings numbered between 17 and 20; the precise number was unfortunately not noted at the time because it was not expected that they would soon respond to treatment. The swellings were only roughly symmetrical in position and were situated immediately beneath the skin. Most of them were freely moveable and could be picked up between the finger and thumb; the older and larger ones appeared to have prolongations downwards into the muscular tissue. They varied in size from a threepenny-piece to a five-shilling-piece in diameter; the skin above them was raised about half an inch to an inch above the surrounding skin. The largest was not quite as large as an ordinary hen's egg and the smallest felt like a pea; many were flattened like an almond. The larger swellings had one or two pea-sized satellites in their vicinity. The swellings were hard and the skin above them showed no puckering when pinched up; they had a definite circumscribed outline and were not lobulated. The skin over the older tumours was pink, with dilated venules visible to the naked eye. The tumour which had appeared in 1896 was very firm and of about the size of an almond; it was excised and examined microscopically, and proved to be of typical lipomatous structure.

Family history.—The patient had five brothers and four sisters. Two of the sisters died young; one is mentally deficient. One brother, aged 25 years, developed a "swelling" in 1905, but I have not seen him.

General health.—The patient had measles in childhood. In 1896 he had scarlet fever. He never had rheumatic fever. There was no history of syphilis, but he had a soft chancre in 1895. He was of average height, with a short neck and broad chest. There was no obesity. The heart and lungs appeared to be normal; the liver edge was just palpable on deep inspiration. The patient regarded himself as enjoying average health but there were about him signs of defective vascular tone, unmistakeable to an experienced eye. The skin showed irregular mottling over almost the whole of the body. This mottling is visible in many individuals with defective circulation during cold weather but this patient showed the condition even on a warm day. All along the costal margin of the thorax there were telangiectases. The facial contour varied from day to day, having a flabby appearance when the patient felt "slack," and at such times the orbital fissure became narrowed, although no definite œdema beneath the eyes was ever seen. Every physician recognises this marked variation of the facial contour in subjects of what, for want of knowledge of the cause, we term deficient vascular tone. The extremities were frequently blue and swollen; the finger ends were inclined to be bulbous. The patient said that after a heavy meal, especially on a cold day, his ears and fingers up to the knuckles often became white and numb. He had been accustomed to take from three to six glasses of beer daily since the age of 20. He took spirits at times but had never been a hard drinker.

Treatment.—1. *Local* treatment consisted in painting the skin over each swelling with ethylate of sodium. At first this was done once a week but after a month the patient in his zeal exceeded his instructions and began to paint the skin daily. This set up inflammation and he developed a superficial ulcer over the largest lipoma, situated just above the right buttock, and redness and tenderness over several others. This was readily soothed down and the patient was instructed to paint the swellings two or three times weekly till the skin should become reddened, then to leave off local treatment until the skin returned to its normal condition, when the application might again be resumed. These directions were faithfully carried out until the early spring of 1906. He was then ordered to massage and rub the remaining lipomata and to douche them with as hot water as he could tolerate. 2. The *general* treatment was perhaps as important as the local treatment. A teetotal regimen was prescribed. At first the diet was regulated in order to improve the dyspepsia but after a few months no restrictions were placed upon the diet. Active exercise in the form of bicycling had always been a favourite pastime with the patient and he was encouraged to continue the habit more regularly. In the spring of 1904 he began to practise deep breathing exercises and Swedish movements and has gradually increased these, practising them morning and evening. The constipation has been treated on the usual lines of diet, exercise, and pills of aloin with nux vomica. Various tonics containing strychnine or nux vomica, quinine, phosphoric acid, and iron were given at intervals from 1903 to 1906. In May and June, 1904, thyroid (2½ grains three times a day) was tried but had to be omitted because of the "clammy hot attacks" he suffered from whenever he took it regularly. In March, 1906, he was put on 20-grain doses of calcium chloride three times a day with the object of reducing the blueness and swelling of the fingers during the cold spring winds. He continued to take this from time to time till the warm weather of summer; it did not affect the remaining lipomata but it improved his general health and made him feel "braced up."

Effects of treatment.—No fresh tumour appeared after the commencement of treatment although between 16 and 19 lipomata had appeared within the three preceding years. A marked diminution in the size of the softer lipomata was noticed within a few months from the beginning of treatment, and by November, 1904—i.e., in less than 18 months—only 12 lipomata could be found, the smallest tumours having entirely disappeared. The remaining dozen very slowly but very steadily decreased in size. To-day (March, 1907)

on looking at the surface of the body of the patient there is only one slight swelling visible to the eye over a lipoma which is situated on the extensor aspect of the right thigh. It is only after most careful palpation that ten swellings can be discovered in the sites where, three years previously, there existed prominent tumours. Four of these remaining lipomata give to the examining finger a sensation as of a flat bean situated in the muscular tissue (being impalpable except on picking up the muscular tissue); six are not larger than a pea and are equally deeply situated and difficult to palpate. Several fine cicatricial areas are present over them, the result of the over-zealous preliminary treatment. The general health is much improved; the skin is less mottled, the eyes are bright, the lethargy and dyspepsia have vanished, and the movements are more alert. The telangiectases along the costal margin are still present but have not increased.

Previously recorded cases.—The literature on this subject is more scanty than would be expected. Surprised at the good result of treatment in my case I looked up the bibliography of multiple lipomata and found it consisted largely of short descriptions of cases of diffuse lipomata, the majority of whom had been exhibited at the medical societies. There was little reference to treatment. Previous to the introduction of antiseptics there are several interesting records of treatment in the French medical journals. The writers point out the usefulness of their methods of treatment, by which "all bleeding is avoided, and above all, erysipelas, which sometimes leads to death." After antiseptics rendered excision free from danger, there is but little further record of other than surgical treatment for lipomata. In 1839 Leviez[1] mentioned a case of a large fatty tumour under the chin which resisted all liniments, but after pustulation had been induced by friction with a certain pomade a cure ensued. In 1859 Legrand[2] described a method of linear cauterisation by zinc chloride, followed by application of caustics to the exposed tumour. He admits the painfulness of the procedure, but praises its safety. In 1863 Dr. Saul[3] reported a case of multiple tumours which improved slightly under potassium iodide in doses of six grains three times a day. The tumours appeared to be of a lipomatous nature, but no microscopical examination was made. In 1872 Mr. J. Gay[4] described a case of multiple lipomata which resembled my case more than any other description I have met with. The tumours were firm and hard, with well-defined outline, situated immediately beneath the epidermis. They occurred in a stout middle-aged man who suffered from dyspepsia and cold extremities. Under a course of treatment directed to the improvement of the general health and frequent hot baths (120° to 130° F.), given with the aim of liquefying the fat and so promoting its absorption, many of the tumours disappeared and the hard ones became softened. In 1881 Dr. Pritchard[5] reported a case of multiple symmetrical lipomata, averaging in size a small bean. They had lasted for 25 years; some disappeared when fat in other parts of the body decreased. In 1887 Dr. W. K. Sibley[6] exhibited a case of a man, aged 32 years, who for five years had symmetrical lipomata appearing on the body. He was a plethoric individual whose face showed capillary dilatation; and he was addicted to drinking beer and spirits. When he was working hard the swellings became reduced in size. In 1886 Mr. Morrant Baker and Mr. A. A. Bowlby[7] described a large number of cases with multiple diffuse lipomata in which the individual swellings were from five to six inches long, softer and more deeply situated than in Mr. Gay's case, and of indefinite outline. They referred at the same time to previously recorded cases and drew attention to the fact that the patients were males and that in almost every case there was a history of hard drinking of beer and spirits. A few cases had derived slight benefit from the administration of liquor potassæ 20 minims three times a day (Brodie's[8] method). No good had resulted in cases treated with tincture of iodine internally. In Quain's "Dictionary of Medicine" (third edition) the following interesting remarks occur in the paragraph dealing with the treatment of lipomata: "Though fatty tumours are said to shift their position, and sometimes to diminish in size spontaneously, they are not to be dispersed by internal remedies or external applications. ..... It is said that if they result from beer-drinking they will diminish if the habit be discontinued."

Remarks.—The case is of interest both from the pathological and the therapeutical point of view. The pathological interest lies in the association of fatty deposits and telangiectases and the possible relationship between these two phenomena. As the patient was unaware of the thoracic telangiectases and mottling of the skin it is impossible to say whether they preceded or followed the lipomata. The long history of white and numb fingers and ears points to the presence of a defective circulation existing for many years. In such subjects beer and spirits, being vascular dilators, are very injurious and tend to increase the unhealthy condition of the peripheral circulation. It has long been recognised that obesity is associated with defective circulation and it has been considered that the phenomenon is due to the resulting defective oxygenation of the tissues. Thus, obesity occurs with anæmia and with cardiac disease in certain persons. It is quite probable that the local fat deposits in the above case were due to a local stagnation of the circulation. Obesity in certain regions has been reduced by massage and irritants applied to the overlying skin, the reduction probably being due to the increased blood-supply to the part. It was with this idea in mind that I commenced treatment with a strong caustic application over the tumours. As I did not expect the result which has fortunately occurred, the notes of the precise measurements, sites, and rapidity of diminution of the lipomata are not so accurate as they would otherwise have been. The treatment was pushed in the early stage till a dermatitis was excited; and the diminution of the tumours was very rapid during the first two months, more rapid than during the later stages, when dermatitis was avoided. In the spring of 1906 the patient observed that the lipomata had not made much improvement during the previous half year; and therefore the caustic applications were discontinued. The remaining portions of the lipomata (with the one exception above referred to) were at that time so deeply situated that it was improbable that cutaneous applications could affect them.

This method of treatment by caustics may be recommended where operation is inadmissible, by reason of the large number of the tumours, objection on the part of the patient, or for any other cause. In cases where it is desirable to avoid the scarring consequent on excision, this method may also be recommended because if carefully performed under medical supervision no scar need result.

Upper Berkeley-street, W.

[1] Gazette Médicale de Paris, 1839.
[2] Gazette des Hôpitaux, 1859.
[3] Transactions of the Pathological Society of London, vol. xv.
[4] THE LANCET, Oct. 26th, 1872, p. 593.
[5] Brit. Med. Jour., vol. i., 1881.
[6] Transactions of the Pathological Society of London, vol. xxxix.
[7] Transactions of the Royal Medical and Chirurgical Society, 1883, vol. lxix.
[8] Brodie: Lectures on Pathology and Surgery, 1846, p. 202 (American edition).

THE TEACHING OF THE HYGIENE OF THE EXPECTANT AND SUCKLING MOTHER.[1]

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[Dr. Sykes commenced his paper by saying that in times past various factors had been assigned as the causes of a high infantile mortality. It now, however, seemed clear that faulty maternal hygiene was the *fons et origo mali*. The resisting powers of the infant by which it is enabled to fight adverse influences should be acquired and maintained for the nine months before birth just as much as during the nine months after birth. Therefore the hygiene of the expectant mother takes first rank and this, with the hygiene of the suckling mother, precedes all other considerations. Dr. Sykes then quoted certain statistics as to decrease in birth-rate, increase in the mortality of infants under one year, and decrease of breast-feeding. He continued:—]

Infantile mortality, from the point of view of deficient nutrition and viability, may be expressed in the following form:—

A. Ante-partum and ante-natal causes.—(*a*) As to the mother, resulting in (1) diminished vigour and reduced resistance to adverse influences; or (2) deficient nutrition, growth, and differential development of the embryo. (*b*)

[1] Abstract of a paper read on June 13th, 1906.

As to the infant, resulting in (1) premature birth and death sooner or later after birth; or (2) deficient viability and early death or feeble early existence.

B. Post-partum and post-natal causes.—(*a*) As to the mother, resulting in (1) deficiency in quality or quantity of breast-milk; or (2) suppression of breast-milk through ill-health or designedly. (*b*) As to the infant, resulting in (1) progressive wasting; or (2) premature weaning and failure of the alimentary system. Initial low viability and subsequent want of breast-milk are the main ultimate causes of the bulk of infantile mortality.

[Dr. Sykes then quoted statistics from St. Pancras, Birmingham, Huddersfield, and Brighton showing how far higher infantile mortality is in the hand-fed than in the breast-fed infant. He continued:—]

Of ante-partum and ante-natal conditions there are certain that are moral and economic. The vices of alcoholic excess, the uses of certain drugs, and the incidence of certain diseases must be overcome by the moralist, but they bulk less largely than the great economic condition of poverty, which brings to the mother insufficient food, insufficient rest, excessive work, and extra stimulation, a vicious circle from which she can only be freed by the husband or the philanthropist. Work is not injurious to the expectant woman provided it be not heavy or prolonged. With the same expenditure of money the food and drink may be nutritious or valueless, and even injurious, according to the knowledge and inclination of the mother. It is here that medical advice becomes of so much value in directing the mode of life and the diet with a view of maintaining the health of the mother during some nine months' expectancy, and preparing her for suckling during another nine or ten months. It is here, too, that the father has his part to play in helping to provide the necessary food and rest. When we appeal to the mothers of the country what shall we say to the fathers?

> "The woman's cause is man's. They rise or sink
> Together. Dwarf'd or godlike, bond or free;
> If she be small, slight-natured, miserable,
> How shall men grow?"

Assuming ante-partum conditions to have remained the same, we should have expected the mortality of infants under one year to have decreased *pari passu* with the death-rate at all ages under the influence of improved housing, greater cleanliness of the dwelling, diminished overcrowding, increased scavenging, extended sewerage, better removal and disposal of domestic refuse, and more perfect drainage, but these have been counteracted by increased hand-feeding, earlier weaning, diminished opportunity for continued breast-feeding due to the separation of the mother and the suckling for various reasons, diminished capacity to continue or even to commence breast-feeding due to the lowered health of the mother during the suckling period, or even earlier during the expectant period without later recuperation.

In regard to the feeding of suckling infants, the first thing is to reduce hand-feeding to the smallest proportion possible; it will then be an easier matter to deal with the few remaining hand-fed sucklings. In order to do this it is necessary to ascertain the causes of premature weaning and to remove them or to counteract them. In St. Pancras in 1904 it was ascertained that only about 60 per cent. of infants were wholly breast-fed; in 1905 the proportion had risen to 66·8 per cent. The actual numbers in each year were 457 breast-fed of 772 cases inquired into during 1904 and 530 of 793 cases in 1905. In 1905 fuller inquiry was made into 277 cases of prematurely weaned infants and the ages and causes of weaning were ascertained. In 71 cases there was only partial weaning. Of the 206 cases in which there was premature complete weaning it was found that 78 were weaned at birth, 73 within the first month, and 55 subsequently (mostly during the second and third month). Of these cases prematurely weaned, it was found that from one-half to two-thirds were probably preventable. Now, if of the 33·2 per cent. of sucklings not wholly breast-fed in 1905, one-half can be prevented, it follows that 83·4 per cent. can be wholly breast-fed and, if two-thirds can be prevented, nearly 89 per cent. can be breast-fed. I believe that if proper and complete measures were seriously taken the proportion of partially and wholly hand-fed sucklings need not reach even 10 per cent. Baron Kanehiro Takaki, Surgeon-General of the Imperial Japanese Navy, informed me that 99 per cent. of the infants in Japan were breast-fed.

The causes of premature weaning are mainly dependent upon the mother and of those that are dependent upon the infant a number are probably the effects of ante-partum conditions. The maternal causes of premature weaning are numerous but there is a material difference between those that do not separate mothers and sucklings and those that do. The main causes which do not necessarily separate the mother from her babe are (1) purposeful weaning to avoid the irksomeness of suckling, this is mainly confined to the leisured class; (2) incidental weaning through insufficient knowledge, this is common amongst the working classes, as are also the following: (3) lowered health or vigour of the mother and deficiency of breast milk, mainly due to erroneous and incomplete hygiene, including improper and insufficient food; and (4) more serious ill-health due to various causes, some of which are also preventable.

The main cause which separates the mother from her suckling babe is "going out to work." In illegitimate cases the father shirks his duty and the law only compels him to contribute partially towards the support of the child and not at all towards the support of the mother during the period that she should be suckling her infant. This is a difficult social question, but it was a pleasure to read in the public press that in the case of McLaglen *v.* McLaglen, in the Divorce Court on April 24th last, Mr. Justice Bargrave Deane ordered a baby, who had been forcibly carried off by the father, to be returned to its natural food at its mother's breast. The natural right of the child prevailed over the common law right of the father.

In legitimate cases the mother goes out to work either (*a*) because of the father dying, deserting, or idling, or (*b*) because the father is out of work through economic causes. There is no doubt that in St. Pancras the number of suckling mothers who go out to work does not approach by far the number going daily from home to factory in some of our large manufacturing towns. It is in these towns that the separation of mother and suckling infant cries out loudly for prevention. The remedy I suggest is that infants of suckling age should not be admitted to municipal crêches and public nurseries, but that a manufacturer who elects to employ the labour of mothers with suckling infants on account of its cheapness should provide a cradle-room for the infants and give facilities to the mothers to suckle their infants at proper intervals. This would mean about a quarter of an hour in the middle of each of the forenoon and afternoon shifts. At present a premium is placed upon hand-feeding which is destroying the vitality of the coming generation.

The length of time during which women should cease industrial work before and after confinement is still a matter of dispute. Most mothers, if sufficiently nourished, can do ordinary work, but exhausting work dries up the breast milk, especially that of ill-nourished mothers. In a report towards the end of 1904, instead of weaning and artificially feeding infants on modified milk, I advocated supplementing the mothers' diet, and, in a further report, recommended as the only method of humanising cows' milk—passing it through the mother. Madame Coulet, under the inspiration of Professor Coulet of Caen, was at that time (unknown to me) commencing to put into practical effect in Paris the feeding of necessitous suckling mothers, now carried on at a number of free restaurants, the only qualifications for admission to which are poverty and breast-feeding. Why can this not be carried out in England[2] guarded from abuse by the certificate of the woman inspector or voluntary visitor as to poverty, and by medical certificate as to health and breast-feeding?

There are numerous cases of malnutrition amongst our poor in which, on quitting the lying-in room, the breast milk dwindles or becomes impoverished. Many cases are known to nurses, midwives, and medical men and if reported and assisted the breast milk might be saved and enriched.

> "The very first of human life must spring from woman's breast."

In the hygiene of the expectant and suckling mother is contained the most powerful preventive of infantile mortality. The teaching of the hygiene of the expectant and suckling mother has been said to be ideal. All work must be directed towards an ideal; the important question is whether the ideal is good, better, or best, and whether in adopting a good ideal as a temporising measure instead of a better you may not mar the best.

[2] Mrs. W. E. Gordon has started cheap dinners in Chelsea for nursing mothers insufficiently nourished. Thus both mother and infant are nourished at less cost than a hand-fed infant.

If hand-feeding is encouraged breast-feeding will be discouraged, if breast-feeding is discouraged the incentive to maintain the health of the suckling mother will no longer remain; and if the prospect of suckling be removed the preparation of the expectant condition of the mother will be neglected, not only with disastrous results to the suckling of the infant, but also to the building up of its constitution before birth. It is dangerous to arrest a series of consequential natural events in any part of their course. It has also been said that preventive medicine tends towards the survival of the unfit. The cultivation of natural processes rather than unnatural must be regarded as tending towards producing the fittest.

Every effort should be exhausted upon improving the health of the mother before directing efforts solely to the infant. The hygiene of the expectant and suckling mother cannot be taught to children in school, the wives and mothers themselves must be taught. Medical men, midwives, and maternity nurses must learn and must teach. Women inspectors and lady visitors must not only teach and influence mothers as soon as possible after the birth of infants but must make every effort to reach them before. There should be no divorce of advice as to the mother from advice as to the infant that should be dependent upon her for well-being and nourishment. When such a divorce takes place the principal error is already committed.

For a long time past it has struck me that the promiscuous distribution of leaflets instructing mothers how to hand-feed their infants is beginning at the wrong end, and even prefixing a few words of advice as to breast-feeding does not correct the preponderant details of advice as to how to avoid breast-feeding. In my opinion advice upon the cultivation of breast-feeding should be altogether severed from advice upon hand-feeding, and no leaflet of advice upon hand-feeding should be distributed promiscuously, but each such leaflet should be given only in each individual case to which it is applicable and only after all efforts to establish or to maintain breast-feeding have been exhausted and the medical adviser has definitely advised weaning, and the leaflet itself should bear the name and address of the particular mother's child to whom it is intended solely to apply. As to whether separate leaflets should be issued for the expectant and for the suckling mother may be a matter of opinion, and perhaps the preponderance is in favour of a combination, since from conception to weaning the infant is dependent for well-being and nutrition upon the mother for 18 months.

It is contrary to physiological law to expect that a mother can with impunity suppress or neglect the natural function of such large and active organs as the mammary glands. There are certain bad effects upon the health of the mother which we know may follow the neglect of the function of suckling, certain others that are surmised, and probably certain others of which we are ignorant, observation or research not having yet traced them to their true causes. We know that mammary abscesses may arise from this cause, and we also know that incomplete involution of the uterus follows from inactivity of the breast functions. It has been surmised that amongst the excitants determining the localisation of cancer the suppression of breast milk is to be reckoned. When it is realised that the breasts yield from one pint increasing to three or four pints of milk daily it can be readily realised what a profound influence the suppression of this natural process must have upon the physical and mental condition of the mother.

[Dr. Sykes here quoted the Card of Advice to Mothers which was issued by the St. Pancras Borough Council in 1905.]

St. Pancras has been fortunate in having two women inspectors, B.A.'s of London, holding certificates, and thoroughly conversant with their work, in which they are enthusiastic. This work, which Miss Bibby commenced, has been continued and elaborated by Miss Gardiner, since assisted by a staff of visiting ladies. The experience is: 1. That working-class mothers are specially anxious that their infants should be born healthy and robust and be healthily bred, and that they will make every effort and sacrifice to secure these results and welcome any advice and assistance to improve their own health and that of their sucklings. 2. That it is due mainly to want of knowledge, advice, and assistance that (*a*) a large number of infants are born prematurely and die soon after birth; (*b*) that a large number of full-time infants are born so feeble as to live only a few weeks; (*c*) that a large number of infants are not suckled at the breast after being born; and (*d*) that a large number of infants who are suckled at the breast for a few weeks are weaned prematurely. 3. That by means of proper advice and assistance the health of expectant mothers can be improved and prepared for suckling and that of suckling mothers maintained; that the number of breast-fed infants can be largely increased; and that, as the mortality of breast-fed sucklings is so much less than that of hand-fed, the results of such action should be most beneficial. 4. That sick and weakly mothers, and consequently hand-fed sucklings, are special objects for medical supervision and guidance, each individual case requiring individual attention.

St. Pancras has also been fortunate in having as chairman of the public health committee Dr. R. M. Beaton, L.C.C., who convened the conference on the Prevention of Infantile Mortality, over which he presided in June, 1905, at the town hall, and which Sir William Broadbent, Sir Lauder Brunton, Mr. E. R. P. Moon, M.P., Professor Herbert Spencer, Mrs. Scharlieb, Miss Vaughan, Mrs. Fleming, and many other well-known persons supported. This conference, assisted by the women inspectors and a staff of lady voluntary visitors, gave an immense impetus to the movement and the elaboration of an organisation.

[Dr. Sykes then described the system of organisation which was elaborated at the above-mentioned conference. It included measures for obtaining information of births at the earliest possible moment and of information of expectant mothers. With regard to the giving of information, measures were adopted for advising mothers, both before the birth of their children and after, as to the best means of maintaining their own health and that of their children. Dr. Sykes continued:—]

Professor Pinard and Dr. Variot have called attention to the success of puériculture, both before and after birth, at Creusot, where the immense manufacturing works of Messrs. Schneider are situated. Messrs. Schneider have proceeded by encouraging municipal, and especially working-class, sanitation, by raising the salaries of workwomen so as to enable them to perform their functions of maternity, and by providing medical assistance to attend upon and advise the workpeople. Expectant mothers are properly advised as to hygienic measures; they are forbidden to work after the quickening, about the fifth month, or to return to work after convalescence until medically certified. The results have been a reduction in premature births, a reduction in infant mortality, and an increase of breast-feeding to over 80 per cent. The mayor, Mr. Benjamin Broadbent, in an open letter addressed to the mothers of Huddersfield, has described the success of his experiment, commenced in November, 1904, of offering £1 reward to every baby surviving the first anniversary of its birth in the township of Longwood. He has also described the series of regulations promulgated in 1894 by the mayor of Villiers-le-Duc in France for providing early and free medical advice and attendance for the expectant mother and subsequently for the suckling mother and her infant, together with a grant for extra food during the lying-in and the suckling period, and it is interesting to note in the recommendations supplementing the regulations how the mother is repeatedly advised to consult the medical man when any deviation from health occurs in any individual case.

These methods are on right lines. There is room for municipal effort in teaching and promoting the personal hygiene of mothers in association with the medical and nursing professions and the labours of sociologists and philanthropists, and (1) to teach mothers how to prepare for and maintain breast-feeding and not to wean prematurely; (2) to assist ill-fed mothers in obtaining proper nourishment to prepare for and maintain breast-feeding, utilising existing institutions, societies, and associations; (3) to advise mothers that if they must go out to work they must take their babies with them to continue breast-feeding; (4) to persuade employers to provide cradle-rooms and facilities to enable the suckling mothers employed to continue breast-feeding; and (5) to refer to medical attendants to advise those mothers who require special treatment to improve and maintain their health that they may order such necessaries for mother or suckling as may be required.

With regard to untimely, heavy, or prolonged work by pregnant and suckling women in factories, workshops, and workplaces, it is provided in Part. IV. of the Factory and

Workshop Act, 1901, s. 79, "Where the Secretary of State is satisfied that any manufacture, machinery, plant, process, or description of manual labour used in factories or workshops is *dangerous* or injurious *to health* or dangerous to life and limb, either generally or *in the case of women*, children, and *other class of persons*, he may certify that manufacture, machinery, plant, process, or description of manual labour to be dangerous; and thereupon the Secretary of State may, subject to the provisions of this Act, make such regulations as appear to him to be reasonably practicable and to meet the necessity of the case"; and in s. 83 the regulations may, among other things—"(*a*) *prohibit* the employment of, or *modify or limit the period of employment of*, all persons or *any class of persons* in any manufacture, machinery, plant, process, or description of manual labour certified to be dangerous. ....."

By s. 61 it is already provided that "an occupier of a factory or workshop shall not knowingly allow a woman or girl to be employed therein within four weeks after she has given birth to a child." If, therefore, the Home Secretary could prohibit, or modify or limit the period of, the employment in certain industries or processes of pregnant women after quickening, more good would be done than by the indiscriminate prohibition of pregnant women to work for a fixed period after confinement. If the Home Secretary cannot take action under existing provisions he should be given the power to make regulations for mothers during the expectant and suckling period as to the kind and amount of work they should be limited to in certain industries or processes after the quickening, and as to requiring employers to provide facilities for mothers to suckle their infants at intervals when at work during the suckling period.

In conclusion, it must be said that you cannot rear an imperial race on the bottle. History tells us through the ages that it was the mothers who reared the imperial races of the past, as they will continue to do in the future. If we intend to remain an imperial race, we must restore to its imperial place the dignity of motherhood, and repeat again and again: "The hand that rocks the cradle rules the world."

Camden-square, N.W.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Co-existence of Appendicitis and Obstruction.—Dislocations and Fractures of the Thumb and Great Toe.—Volvulus of the Entire Small Intestine, Cæcum, and Ascending Colon.

A MEETING of this society was held on March 26th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. J. HUTCHINSON, jun., gave an account of a case of Co-existence of Suppurative Appendicitis and Intestinal Obstruction in a girl, aged 15 years. The girl had suffered from an attack of appendicitis some months previous to the onset of acute symptoms. The abdomen was opened in the middle line, the obstruction relieved, and the fœtid pus removed from the abdomen. The girl made a good recovery.

Mr. HUTCHINSON also showed a series of drawings and radiographs illustrating certain Dislocations and Fractures of the Thumb and Big Toe.

Mr. HUTCHINSON then read an account of Volvulus of the Entire Small Intestine, Cæcum, and Ascending Colon. He said the anatomical condition which led to complete volvulus was due to a defect in development. The arrest of development being congenital complete volvulus was most common in children and much more frequent in males than in females. The whole of the intestine supplied by the superior mesenteric artery, from the duodenum to the transverse colon, underwent torsion to the amount sometimes of 360°. In nine out of the ten cases reviewed and abstracted in the paper this rotation brought the cæcum and ascending colon behind the mesentery, which latter acted as an obstructing band. In one case the rotation was in the opposite direction. The cæcum, greatly distended, might be found close to the spleen or in the left iliac fossa. The condition was very difficult to recognise even after the abdomen was opened and there seemed to be only two successful cases of operation on it recorded. The first was Mr. Hutchinson's, operated on in 1901; and the second was operated on by Brentano in 1904. It was essential to draw the intestines outside the abdomen in order to recognise and to reduce this form of volvulus and it was advisable to evacuate the cæcum by tapping.—Mr. A. E. BARKER mentioned a case of volvulus of the whole of the small intestine, but not of the cæcum. The case was that of a woman on whom he had performed a gastro-enterostomy some two years previously for hæmatemesis. She married and became pregnant and was suddenly taken ill with pain in the abdomen and vomiting. The abdomen was opened and the volvulus recognised; this was reduced without taking the intestine out of the abdomen. The ease with which the intestine could be rotated within the abdomen was surprising. He considered it unnecessary in most cases to remove the intestine from the abdomen in order to reduce the volvulus.—Dr. ARTHUR KEITH said that the assumption of the upright position in man necessitated the fixation of the intestine in a manner different from that which was seen in the lower animals. In all the anthropoid apes he had found that the intestines were fixed in the same way as in man. The type of intestine and fixation which was found in Mr. Hutchinson's case corresponded to the form which was found in the lower animals. He had found a volvulus similar to that described by Mr. Hutchinson in a child who was born dead and that was due to a defective development—the attachment of the intestines.—Mr. GERALD S. HUGHES gave an account of a similar case in which a woman who all her life had been subject to attacks of abdominal pain suddenly developed signs of acute obstruction. She only came under observation half an hour before death and at the necropsy the whole of the small intestine was found twisted on itself; the cæcum was, however, in the normal situation.—Mr. HUTCHINSON, in reply, said that neither the case recorded by Mr. Barker nor that recorded by Mr. Hughes corresponded to those which he had described. The cases which he described formed a distinct group dependent on a congenital deformity. He could not agree with Mr. Barker that it was inadvisable in these cases to remove the intestine from the abdomen. He felt sure that the failure to cure the patients in some cases was due to the fact that the intestine had not been removed and the condition not relieved owing to it not being recognised.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 22nd, Dr. A. H. Bampton being in the chair.—Dr. J. B. Hellier read a paper on Post-operative Pneumonia and Bronchitis, in which he said that, though estimates of the frequency of such complications varied greatly, their occurrence was well recognised, some continental authorities finding 4 or 5 per cent. of pneumonia in abdominal cases after operation. The factors in causation were multiple. Dr. Hellier discussed the parts played respectively by the condition of the patient, chilling of the patient in the wards, corridors, and theatre, infection by the inhaler, septic state of the mouth and teeth, aspiration into the lungs, specific action of ether on the lungs, purity of the anæsthetic, faults in administration, and so on. He then considered in detail the various precautions which such a review of causation suggested, such as preparation in the ward, precautions during operation, methods of administration, and after-treatment.—A suggestive discussion followed.—Dr. A. Bronner read a paper on the Surgical Treatment of Diseases of the Nasal Accessory Cavities. He drew attention to the fact that these diseased cavities were a very common cause of anæmia, gastritis, meningitis, atrophy of the optic nerve, and disease of the cavernous sinus. The maxillary antrum was affected most frequently and the disease could spread from there into the frontal and ethmoidal cells. He generally opened up the antrum through the alveolar process and inserted a large Williams tube. The cavity should be washed out daily, powders insufflated, and if there was any discharge after two or three months the antrum should be plugged with ribbon gauze, through the tube. This method often effected a cure in the most tedious cases. In very bad cases the radical operation should be performed through the canine fossa and a large opening made into the nares. In disease of the maxillary antrum there was often pain over the frontal sinus and the antrum should always be explored before the sinus was opened,

For disease of the frontal sinus Killian's operation was the best in severe cases. This and other methods were described. The anterior ethmoidal cells were very often diseased and were the cause of the frequent recurrence of nasal polypi; the best method was to remove them with Meyer's ring. Disease of the posterior ethmoidal cells and the sphenoidal sinus often gave rise to meningitis, atrophy of the optic nerve, paralysis of the ocular muscles, and disease of the cavernous sinus. These cases were very frequent and generally overlooked. The use of adrenalin had greatly simplified these operations.—The following among other cases and specimens were shown:—Professor A. S. F. Grünbaum: A Fibrotic Testis and the Brain showing Minute Hæmorrhages from a Syphilitic Chimpanzee. —Dr. F. W. Eurich: Meningeal Hæmorrhage in a case of Anthrax.—Mr. James Ewing: A patient suffering from "Hairy" Black Tongue. There was great elongation of the filiform papillæ in the centre of the dorsum and they looked like black hairs.—Mr. B. G. A. Moynihan: (1) Carcinoma of the Jejunum; and (2) a patient upon whom Transplantation of an Extroverted Bladder was performed.—Mr. J. T. Fox: Specimens from Acute Fatal Congestion of the Pancreas, Suprarenals, and Duodenum.—Dr. A. L. Whitehead: Specimen of Multiple Cysts of the Retina causing Absolute Glaucoma.—Mr. R. L. Knaggs: Specimen showing Ureters implanted into the Rectum from an infant one year old. Death took place from causes unconnected with the operation some time afterwards.—Dr. W. H. Maxwell Telling: A case of Chronic Lichen Planus of 11 years' duration with recent exacerbation.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on March 27th, Dr. Alfred Eddowes, a Vice-President, being in the chair.—Mr. Arthur Shillitoe showed a case of Untreated Syphilis in a man, aged 22 years, the primary infection being in September, 1906. The trunk, limbs, and scalp presented a very extensive scaly and crusted eruption which in parts was psoriasiform in character. The fauces were much ulcerated.—Dr. Eddowes showed: 1. A man, aged 37 years, with Scarlatinoid Exfoliative Erythema. The patient had had two previous attacks and at the present time there was marked desquamation of the soles of the feet. His general health was unaffected. 2. Two sisters: one, aged 29 years, with Tylosis Palmæ, of hereditary origin, the mother and eldest brother being also affected in a similar manner; the other, aged 27 years, with Palmar Warts. 3. A boy, aged 15 years, with Peliosis Rheumatica.—Mr. Spencer Hurlbutt exhibited: 1. Two men, one, aged 45 years, with a Guttate Psoriasiform Eruption scattered nearly all over the body, face, and scalp of 14 days' duration, with a more or less greasy, fawn-coloured eruption over the sternal region; the other, aged 23 years, with a somewhat similar rash but with no sternal eruption. (A lively discussion took place with regard to the exact nomenclature of these two cases and to the relationships between seborrhœa corporis and psoriasis.) 2. A young woman, aged 24 years, with Bazin's Disease, affecting the usual region of the middle third of the legs, but in whom there were also infiltrated nodules upon the extensor aspect of the forearms. The condition began on the left arm a year ago.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 20th, Mr. E. Powell, the President, being in the chair.—Mr. J. Mackie showed a boy, aged 15 years, who for eight years had suffered from Chronic Suppurative Otitis Media. There had been occasional attacks of pain for the last two years accompanied by vomiting and giddiness, usually followed and relieved by profuse discharge of pus. The temperature ranged from 97° to 105° F. and thrombosis of the lateral sinus was diagnosed. On Sept. 27th 1906, the mastoid antrum was opened and found to be continuous with an extradural abscess. The sinus was opened, the clot removed, and the abscess drained. Four days after the operation the patient developed left basal pneumonia and pericarditis with daily rigors. Nine days after the operation the temperature fell from 106·2° to 95° in three hours. Four days later a profuse expectoration of foul purulent material occurred, probably from a pulmonary abscess. Nine days later (Oct. 19th) a swelling developed in the neck along the course of the internal jugular vein. The neck was freely incised and the abscess was opened after tying the internal jugular vein at its junction with the subclavian. The boy made an uninterrupted recovery and is now in excellent health.—Mr. R. C. Chicken read a paper on Renal Calculus, in which he analysed critically, from the point of view of diagnosis, all the symptoms in ten recent cases. The three cardinal symptoms of hæmaturia, local tenderness, and renal pain were variable within such wide limits that corroborative evidence, such as was sometimes obtainable by the x rays, was often extremely valuable. Pain might radiate as far as the breast, the scapula, or the iliac crest; while, on the other hand, pain and tenderness might be completely absent. In one case renal calculus was complicated by suppurative appendicitis and in another by pain over the gall-bladder, jaundice, and wasting. In a third the tumour was formed by a large pyonephrosis, below which a large stone was found. In one typical case no stone could be found by nephrotomy, and in another the pain was so slight that a large uric acid stone would probably not have been detected but for the help of x rays. Then, again, all the pain might be referred to the healthy side and much confusion might be caused when pain was set up by a long adherent, chronically inflamed appendix.—Dr. F. H. Jacob read a paper on the Use of the X Rays in the Diagnosis of Renal Calculus, in which he pointed out that with the improved coils now in use a better picture of the kidney and its relations could be obtained in difficult circumstances than formerly. The necessary time had also been greatly reduced and as the kidney moved on an average one and a half inches at each respiration, this had its importance. Scybalous masses were much more obvious in an x-ray photograph than a calculus would be, and this fallacy had to be guarded against by complete evacuation of the bowels. Calcified tuberculous glands were another source of error. —Dr. Jacob also read a paper on two cases of Leucocythæmia treated by X Rays. Both patients showed marked improvement.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 15th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. A. A. Young showed a case in which ulcerative perforation of the stomach and two cases in which ulcerative perforation of the duodenum had been successfully operated on. The success of these cases was largely due to early treatment, the intervals between the first symptom and the operation being from four to seven hours. Dr. Young had operated on 11 such cases with six recoveries and five deaths. The diagnosis was generally made from sudden and violent pain, with rigidity and tenderness of the abdomen. The previous history was of little service, for there were many cases of perforation in which ulceration had not been suspected. The peritoneum should be gently sponged after the ulcer had been sewn up with as little handling as possible. The area of perforation should be drained and Fowler's position adopted as it lessened the danger to the lungs.—Dr. A. N. McLennan read a paper on Professor Bier's Treatment for Infective Lesions and showed some of the Bier-Klapp apparatus. It was suggested that the word "stauung" used by Professor Bier to denote the hyperæmia produced by the elastic band might be incorporated in the English vocabulary. The "stauungshyperämie" of Bier was produced by applying a light Martin's indiarubber bandage as remote from the inflammatory region as convenient. The degree of tightness was important. The correct application ought not to produce pain but to relieve it. It intensified the signs of inflammation, such as the redness and the swelling. The bandage was retained in acute cases for 22 hours. An interval of from two to four hours was employed in reducing the œdema the result of the bandage. Where pus existed it must be given vent to, but small incisions were sufficient. During the treatment all dressings must be very loosely applied. The dangers attributed to the treatment, such, for instance, as increase of pain, extension or dissemination of the infection, erysipelas, and hæmorrhage, were due to faulty technique, while the illness observable during the interval of the treatment was due to the absorption of endotoxins. The method was applicable to many septic conditions and was especially serviceable as a means of preventing wounds becoming septic. The treatment of localised inflammatory conditions by means of suction apparatus was most successful. The apparatus was allowed to act for five minutes, then there was a pause of three minutes; the alternation of suction and interval was repeated for about an hour daily. Tuberculous joints were treated by Professor Bier in a large apparatus producing a partial vacuum.

Reviews and Notices of Books.

Operative Otology, Surgical Pathology and Treatment of Diseases of the Ear. By CLARENCE JOHN BLAKE, M.D., Professor of Otology in Harvard University; and HENRY OTTRIDGE REIK, M.D., Associate in Ophthalmology and Otology, Johns Hopkins University. With 13 plates. London: Sidney Appleton. 1906. Pp. 359. Price 15*s.* net.

IN the first chapter 37 pages are devoted to the surgical anatomy of the temporal bone and its surroundings, while the second chapter deals with antiseptic technique. The former is a clear and lucid description of the more important surgical anatomy. The form of sterilisation of the instruments most recommended by the authors is that by means of formaldehyde gas; sterilisation by this method can be accomplished in a very short space of time and has the great advantage of not blunting sharp or dulling bright instruments. The remainder of the chapter calls for no particular remark but it is one which will be very useful for refreshing the memory of those who have forgotten the antiseptic technique. The third chapter—diseases of the auricle and external auditory canal—deals with malformations and ordinary diseases of these parts. In treating of the removal of exostoses of the canal the operation through the canal is recommended for those near the external surface and reflection of the auricle for pedunculated and deep-seated growths. On p. 86 an extremely neat little chisel is depicted, having a small metal handle fastened on to it obliquely a short distance from the proximal end of the shaft. In the fourth chapter, which deals with diseases of the tympanic membrane and tympanum, we notice that the inflammations of the tympanic membrane are treated separately from inflammation of the middle ear. We think that this is unwise, as, with the exception of cases in which inflammation of the tympanic membrane results from direct irritation from without, it can only occur in conjunction with inflammation of the middle ear. An extremely useful syringe of the Pravaz type is depicted, with a long straight metal nozzle, which is introduced through a small perforation in order thoroughly to wash out the tympanum itself; this must of necessity be of greater use in perforations of Shrapnell's membrane. When speaking of chronic suppuration, in view of the tendency that exists in this country to an early resort to operative measures, the following remarks of the authors are worthy of note: "Having patiently, persistently, and perseveringly tried all simple means of overcoming the otorrhœa without success, the existence of a deeper focus of suppuration in a bone necrosis is presumable." Further on in the same page we find: "Ossiculectomy is considered appropriate where ossicular ulceration is present, and the mastoid operation where extension of suppuration to the cellular structures of the mastoid is presumed." This is, we think, sound surgery.

The next chapter deals with the various complications following suppurative otitis media. It is an excellent chapter but contains no strikingly original remarks. The authors state that the most trustworthy statistics at the present time indicate that one case of intra-labyrinthine suppuration occurs in every 100 cases of purulent middle-ear disease. This is a useful statement and is probably based on a sufficient number of cases to prove its correctness. In exploratory tympanotomy a very clever idea is suggested for returning the flap to its normal situation, which is done by means of damping a small crescentic portion of highly glazed paper and causing it to adhere first to the flap and afterwards to the edge of the tympanic membrane. A similar procedure is advocated for the closing of old perforations and appears to us to be one which, if carefully performed, may be extremely useful in selected cases. A good many of the terms used are distinctly Transatlantic. Thus "tympano-antral externation" is practically what is known as the Stäcke operation but is not very clearly described. The term "mastoidectomy" is employed for those operations in which the mastoid process is attacked, and "mastoido-tympanal externation" is, as we read it, the term employed for what is known by us as the complete mastoid or radical mastoid operation. The last chapter consists of an abstract from a paper written by Bourguet in 1905 and published in the *Annales des Maladies des Oreilles, du Nez et du Pharynx*.

This book is one which we can strongly recommend as an excellent guide to operative aural surgery, though as we have said the terms employed are not always those which we employ in England. This, however, does not seriously impair the usefulness of the volume.

A History of Chemistry. By F. P. ARMITAGE, M.A., F.C.S. London: Longmans, Green, and Co. 1906. Pp. 266. Price 6*s.*

THE history of chemistry tells the story, as the author owns, of some thousands of years of almost fruitless labour, followed by two centuries of richest accomplishment. It is now debateable which of these centuries has borne the greater fruit. Ten years ago, perhaps, there could have been no question but it is the last decade which has brought us face to face with the suggestion engendered by the study of radiant matter and radio-activity that we have actually touched the borderland where matter and force seem to merge into each other. The eighteenth century saw the atomic conception become a theory which was so strongly supported by well-ascertained facts as to bring it almost to the level of certainty but hardly had the century passed away when these views became modified by the wonderful glimpse which was gained into the nature of radio-active phenomena; that, after all, the atom was not a stable entity; that there were such things as a disintegrating atom and a non-disintegrating atom existing side by side in the same sphere; that, after all, the atom is a mass of electrons some of which may break away to form new groups, the electrons, in short, being units of electricity. Nowadays, therefore, no history of chemistry can be complete which does not regard this development and we are led to ask why Mr. Armitage chose to conclude his story abruptly with the account of the periodic functions of the elements. To do him credit, however, the narrative up to this point is well told and he must have taken great pains to collect the materials and to present the facts in their proper historic sequence. He commences with almost prehistoric times, when chemical knowledge did not go further than the manufacture of such articles as glass and soap, and the isolation from their native ores of easily reducible metals such as gold, silver, lead, and copper. Classification was not attempted until Aristotle assumed the existence of four elements but crude as this was it stimulated inquiry and the notion of transmutation gained credence. Towards the middle of the seventeenth century the view of the existence of four elements had to be abandoned in the light of accumulating facts which were the outcome of a more or less systematic research. We now know how rapidly this knowledge advanced from the time that Paracelsus regarded chemistry as the handmaid of medicine, as the author puts it, down to the time of Boyle's work (1661), and then on to the labours of Stahl, Hoffmann, Black, Priestley, Cavendish, Scheele, Lavoisier, Dalton, Davy, Gay Lussac, Avogadro, Berzelius, Liebig, Gerhardt, Kekulé, and so on to near the end of the last century. Mr. Armitage recounts the history of all these men, their labours and their careers, in terms which cannot fail to interest the student who is desirous of knowing how the science of

chemistry was built up, and he is justified, we think, in venturing to hope that it will be the readers' fault if after applying common intelligence to the reading of this volume they fail to "see problems in a clearer light and attack them with minds broadened by contact with those of their famous predecessors." We trust in a future edition that the author will bring his literary power and scientific knowledge to bear upon recent advances, which means telling his readers how men came to think of electrons and of radiant matter and to revert to the old idea of transmutation.

Infant Education. By ERIC PRITCHARD, M.A., M.D. Oxon., M.R.C.P. Lond., Consulting Physician to the Barnet Home Hospital for Children, &c. With a Preface by ALEX. WYNTER BLYTH, M.R.C.S. Eng., Medical Officer of Health of the Borough of St. Marylebone. London: Henry Kimpton; Glasgow: A. Stenhouse. 1907. Pp. xiii.-190. Price 2*s.* net.

THIS meritorious little volume forms the first of the Borough of St. Marylebone Health Society's series and if the succeeding issues are as practical in character and interesting in style the whole should constitute a very useful and successful undertaking. Indeed, the existence of the Marylebone Health Society is a sign of the *Zeitgeist* and shows the increased attention now being paid to the physical side of social problems. Much has already been written on the alarming mortality which occurs among young infants and on methods of checking this waste of human material. This little book offers practical advice for home use which should arm the inexperienced mother against some of the more deadly errors sanctioned by evil customs and foolish traditions. The first chapter deals with the feeding of infants and shows that the digestive organs need education if they are duly to perform their functions in after-life. The importance of breast-feeding is duly enforced. In some cases, however, artificial feeding is inevitable. Emphasis is laid upon the need for proteid food and fats and for proper sterilisation of milk; for this last purpose boiling is commended as the most practicable. Milk so treated is held by the author to be more digestible, while any scorbutic tendency may be met by the addition of a little fresh fruit juice or meat juice to the dietary. The second chapter deals with antenatal hygiene or the mother's duty to the unborn child. Warnings are given not only against such poisons as alcohol and narcotic drugs but also against the evils of over-indulgence in rich food, against the possible effects of violent emotions, and against failure to take sufficient daily exercise. The author appears to attach more weight to maternal impressions as a source of fœtal anomalies than is usually admitted. Chapter III. is devoted to the subject of habits, and stress is laid on the need for the cultivation of regular habits as to taking food, action of the bowels, and so forth, while careful education of the thermotactic mechanism is inculcated in order that a healthy tolerance of changing conditions may be obtained. The fourth and last chapter is devoted to examination of the infant in his home and contains advice to the health visitors as to the "points" of a baby and as to investigation of his condition and the state of his surroundings, especially the cot, feeding-bottle, and clothes. An appendix supplies further data for guidance in such examination and printed forms for recording the results obtained. Taken as a whole, this is an excellent little book for the purpose at which it aims. It is popular in style and evidently intended rather for the laity than for medical readers. Nevertheless, the newly qualified practitioner might benefit by its perusal, if only by being led to recognise the existence of numberless details of nursery hygiene upon which he may have to give an opinion.

LIBRARY TABLE.

The World's Classics.—Vol. lxxix., Sheridan's Plays, with an introduction by JOSEPH KNIGHT; vols. lxxxix. and vol. xcv., The Professor at the Breakfast Table and the Poet at the Breakfast Table, by OLIVER WENDELL HOLMES, with an introduction by W. ROBERTSON NICHOLL; vols. xci. and xcii., Pendennis, with an introduction by EDMUND GOSSE; vol. xciv., Scott's Lives of the Novelists, with an introduction by AUSTIN DOBSON; vol. cxi., The Works of EDMUND BURKE (vol. iii.), with an introduction by FRANK H. WILLIS. Henry Frowde, Oxford University Press. Price 1*s.* per vol. net bound in cloth.—These seven volumes are a further instalment of the excellent series some former members of which were reviewed in our issue of Dec. 22nd, 1906. Three of them—namely, that by Sheridan and the two by Wendell Holmes—are known to everyone but we expect that few of the present generation have read either Scott's "Lives of the Novelists" or any speech of Burke. As regards Sheridan, Mr. Knight tells the reader in his introduction all that he need know about that brilliant but erratic person. Of the novelists dealt with by Scott we should say that the names of Bage, Cumberland, and Reeve are unknown except to professed litterateurs nowadays, and to these names we may possibly add that of Mackenzie. Mr. Austin Dobson in his introduction recalls the fact that so long ago as 1826 a house party were "devouring" the Lives and were stimulated by their perusal to try to read "The Man of Feeling." No one, however, could do so. Of the two volumes by Holmes we need only say the sight of them makes us hope that a future number of the World's Classics will be "The Autocrat at the Breakfast Table." Mr. Gosse, in his introduction to "Pendennis," is not blind to the faults of the work, as no one can be who loves his Thackeray. But if there are faults let us remember the excellencies. How much poorer would English literature be without the gallery of Pendennis portraits. That of the never-to-be-forgotten author of "Mes Larmes" would alone atone for pages of dulness. The volume devoted to Burke contains speeches made between 1771 and 1792, and the first one given is the magnificent speech which he made on the hustings at Bristol previously to the election in 1780. We look with interest to further instalments of the World's Classics.

The Public Schools Year Book for 1907. London: Swan Sonnenschein and Co. Pp. 533. Price 3*s.* 6*d.* net.—This, the eighteenth issue of this useful annual, contains particulars of all public schools connected with the headmasters' conference, together "with a few carefully weighed and necessary exceptions." It contains a variety of educational information which should be found indispensable by nearly all parents or guardians.

The Schoolmaster's Year Book and Directory, 1907. London: Swan Sonnenschein and Co. 1907. Pp. 574. Price 6*s.* net.—This annual publication is to the teaching profession much what the Medical Directory is to the medical profession. A consideration of this work and of the one previously noticed rather leads the reader to the conclusion that there is in this country too much teaching and too little learning, for the practical results seem by no means commensurate with the money and the brains which are spent upon teaching, or rather, we should say, upon education, two terms which are by no means synonymous.

Atlas of Cutaneous Morbid Histology. Consisting of 53 coloured figures on 24 plates and text. By MAX JOSEPH, Physician for Skin Diseases in Berlin; and J. B. VAN DEVENTER, Oberstabsarzt (Surgeon-Major) of the Netherlands East Indian Army in Batavia, Java. London: Archibald Constable and Co., Limited. 1906. Price 18*s.* net.—The names of the authors are sufficient to guarantee that the work before us has been prepared with great care and a

close examination of the volume confirms this expectation. The plates are excellent, wisely chosen, and clearly printed; they are not all, perhaps, of equal merit but not one is poor. The elucidatory text is reasonable in extent and fairly represents current views. The nomenclature of skin diseases has always proved a difficult matter and in a few instances it might have been well to assimilate the nomenclature to that common in this country. It is a pity, for instance, to speak of a primary syphilitic sore simply as "ulcus durum." Dr. Max Joseph is responsible for the text and the choice of specimens, while the credit of the illustrations is to be assigned to Surgeon-Major van Deventer.

JOURNALS AND MAGAZINES.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM, F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G. MCKENDRICK, F.R.S. Vol. XLI. Series III. Vol. II., Part 2. With plates and illustrations in the text. London: Charles Griffin and Co. 1907. Subscription for four parts, 21*s.*—This part contains: 1. The Mechanical Supports of the Pelvic Viscera, by Professor A. Melville Paterson, M.D. Edin. The account of the fasciæ, ligaments, and sheaths of muscles here given is not only derived from careful dissection of the human subject but includes dissection of several mammals, as the kangaroo, horse, porcupine, Persian goat, and duiker-bok, most of which are illustrated by drawings in the text. The dissections were undertaken to correct a serious misapprehension which pervades the description of the pelvic fascia in anatomical writings and partly also to give a rational explanation of the relations of the pelvic viscera to the pelvic floor. The author remarks that the surgeon is now dealing with this region in a way that is not compatible with the descriptions in anatomical text-books. "It is an example of practice outgrowing dogma." 2. Varying Positions of the Carpal Bones in the Different Movements at the Wrist, by Henry M. Johnston, M.B. R.U.I., with eight illustrations in the text. 3. Notes on Predynastic Egyptian Tibiæ, by Douglas E. Derry, M.B. Edin. The article is the result of the examination of a series of between 400 and 500 predynastic Egyptian tibiæ. 4. A Description of the Peritoneal Cavity founded on Clinical and Pathological Investigations, by G. J. Jenkins, M.D. Edin., and S. Maynard Smith, F.R.C.S. Eng., with four drawings in the text. 5. The Interpretation of the Primary and First Secondary Wave in Sphygmographic Tracings, by Thomas Lewis, D.Sc. Wales, M.B. Lond., with seven figures in the text. 6. Note on Accessory Coronary Arteries, by William St. Clair Symmers, M.B. Aberd. 7. Complete Bilateral Interruption of the Fissure of Rolando, by David Waterston, M.D. Edin., with three plates in the text. 8. Congenital Obliteration of a Portion of the Alimentary Canal, by David Waterston, M.D. Edin. 9. The Physiology of the Lateral Atlanto-axial Joints, by Edred M. Corner, F.R.C.S. Eng., B.Sc. Lond. 10. The Arrangement of the Synovial Membrane in the Palmar Digital Sheaths, by Charles R. Whittaker, L.R.C.P. Edin. The part contains the Proceedings of the Anatomical Society of Great Britain and Ireland for June, 1906. An index, which we have not received, is stated to be published with this part, including Vols. XXXI. to XXXIX.

Transactions of the American Ophthalmological Society; Forty-first Annual Meeting. Vol. X., Part 3. Hartford: Published by the Society. 1905. Pp. 242.—The forty-first annual meeting of this society was held in Boston, Massachusetts, and was attended by 30 of the 170 members constituting the society. 29 communications were presented, amongst which were the following. Two cases of Melanosarcoma of the Choroid, by Dr. Charles J. Kipp. Though almost confined to the globe, in one of these cases localised œdema of the eyeball occurred only at intervals of weeks. There was much pain. The eye was removed and the tumour on examination proved to consist chiefly of pigmented polygonal cells and unpigmented spindle cells which had invaded all layers of the choroid and had perforated the sclera. In the other case the growth was only six millimetres in diameter and two millimetres in height and yet had invaded the sclera. Dr. G. E. Schweinitz and Dr. E. A. Shumway report two cases of Melanoma of the Choroid, which are interesting as showing that the starting point of the melanotic growths was observed to be in the layer of large vessels. Dr. C. W. Cutler communicated the details of a case of Metastatic Pigmented Carcinoma of the Ciliary Body. Dr. Edgar S. Thomson exhibited a Sachs's Lamp which had been devised by Mr. Meyrowitz of New York and by means of which the recognition of exudates and of foreign bodies in the eye is facilitated. Dr. Sattler described various improvements in the methods of application of the electro-magnet. In the discussion that followed the reading of this paper considerable differences of opinion were expressed as to the relative advantages of the large and small magnet in the extrication of fragments of iron and in regard to the advisability of making an incision through the sclerotic to introduce the small magnet. The direct application of the large magnet appears sometimes to inflict severe injury to the eye, one speaker, Dr. J. E. Weeks, recording a case of the entire iris coming away with the foreign body on the application of the large magnet. Dr. William Sweet gave the results of his investigations on the magnetic properties of steel alloyed with nickel, manganese, chromium, and tungsten. Manganese steel is the only alloy which materially reduces the magnetic induction of steel. Dr. John E. Weeks contributed a good article on the Various Methods employed for Localising Foreign Bodies in the Eye by Means of the Roentgen Rays. Dr. Lucien Howe read a paper in which, as the result of numerous inquiries addressed by him to the members of the society, he said that he was unable to obtain evidence of the numerous reflexes which by some practitioners have been held to be due to eye-strain. Dr. Hiram Woods gave an account of the conclusions at which he arrived from the study of Nine Cases of Recurrent Iritis. In a case which he saw with Dr. Knapp the substitution of a 10 per cent. solution of euphthalmine for atropine proved very serviceable. Dr. Hansell described a case of Cystic Myxo-sarcoma of the Orbit the excision of which was followed by death. Dr. Charles S. Bull discussed in his communication the Treatment of Inoperable Cases of Malignant Disease of the Orbit by the X Rays. Occasionally success appears to attend this method of treatment but the general results are disappointing. Vernal Conjunctivitis in the Negro was the subject of a paper by Dr. Dunbar Roy. The effects of high-frequency currents in certain ocular affections were treated by Dr. John C. Lester. Affections of the Cornea were considered by Dr. J. Morrison Ray, by Dr. J. Herbert Claiborne, and by Dr. F. O. Wadsworth. Dr. Claiborne also described a case of Homonymous, Left-sided Inferior Hemianopsia following a toxic dose of salicylate of sodium. Dr. Wilbur Marple described a case of Persistent Pupillary Membrane. Dr. Charles Williams exhibited a series of Reversible Test Types and Dr. John Green presented some notes on the Clinical Determination of the Acuteness of Vision. Dr. W. C. Posey contributed the details of a case of Cyanosis Retinæ occurring in a Cyanotic Patient. Lastly, a valuable paper was read from the pen of Dr. A. Duane upon the Symptoms presented by the Different Bacteriological Types of Acute Conjunctivitis. From Dr. Duane's observations it appears that no particular type of conjunctivitis is to be associated with a particular germ and that from the clinical aspect of a conjunctivitis no positive inference can be drawn as to the germ causing it.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 27th, 1867.

ON A NEW METHOD OF TREATING COMPOUND FRACTURE, ABSCESS, ETC.

BY JOSEPH LISTER, ESQ., F.R.S.,
PROFESSOR OF SURGERY IN THE UNIVERSITY OF GLASGOW.

PRELIMINARY NOTICE ON ABSCESS.

In anticipation of the more detailed account which I hope will soon appear in THE LANCET, I will now give a description of a new method of treating abscess, which has afforded results so satisfactory that it does not seem right to withhold it longer from the profession generally.

It is based, like the treatment of compound fracture,* on the antiseptic principle, and the material employed is essentially the same—namely, carbolic acid, but differently applied in accordance with the difference of the circumstances. In compound fracture there is an irregular wound, which has probably been exposed to the air for hours before it is seen by the surgeon, and may therefore contain in its interstices the atmospheric germs which are the cause of decomporition, and these must be destroyed by the energetic application of the antiseptic agent. In an unopened abscess, on the other hand, as a general rule, no septic organisms are present, so that it is not necessary to introduce the carbolic acid into the interior. Here the essential object is to guard against the introduction of living particles from without, at the same time that a free exit is afforded for the constant discharge of the contents. The mode in which this is accomplished is as follows :—

A solution of one part of crystallised-carbolic acid in four parts of boiled linseed oil having been prepared, a piece of rag from four to six inches square is dipped in the oily mixture, and laid upon the skin where the incision is to be made. The lower edge of the rag being then raised, while the upper edge is kept from slipping by an assistant, a common scalpel or bistoury dipped in the oil is plunged into the cavity of the abscess, and an opening about three-quarters of an inch in length is made, and the instant the knife is withdrawn the rag is dropped upon the skin as an antiseptic curtain, beneath which the pus flows out into a vessel placed to receive it. The cavity of the abscess is firmly pressed, so as to force out all existing pus as nearly as may be (the old fear of doing mischief by rough treatment of the pyogenic membrane being quite ill-founded); and if there be much oozing of blood, or if there be a considerable thickness of parts between the abscess and the surface, a piece of lint dipped in the antiseptic oil is introduced into the incision to check bleeding and prevent primary adhesion, which is otherwise very apt to occur. The introduction of the lint is effected as rapidly as may be, and under the protection of the antiseptic rag. Thus the evacuation of the original contents is accomplished with perfect security against the introduction of living germs. This, however, would be of no avail unless an antiseptic dressing could be applied that would effectually prevent the decomposition of the stream of pus constantly flowing out beneath it. After numerous disappointments, I have succeeded with the following, which may be relied upon as absolutely trustworthy. About six teaspoonfuls of the above-mentioned solution of carbolic acid in linseed oil are mixed up with common whitening (carbonate of lime) to the consistence of a firm paste, which is in fact glazier's putty with the addition of a little carbolic acid. This is spread upon a piece of sheet block tin about six inches square; or common tinfoil will answer equally well if strengthened with adhesive plaster to prevent it from tearing, and in some situations it is preferable, from its adapting itself more readily to the shape of the part affected. The putty forms a layer about a quarter of an inch thick; it may be spread with a table-knife, or pressed out with the hand, a towel being temporarily interposed to prevent the putty from sticking to the hand or soiling the coat-sleeve. The tin thus spread with putty is placed upon the skin so that the middle of it corresponds to the position of the incision, the antiseptic rag used in opening the abscess being removed the instant before. The tin is then fixed securely by adhesive plaster, the lowest edge being left free for the escape of the discharge into a folded towel placed over it and secured by a bandage. This dressing has the following advantages :—The tin prevents the evaporation of the carbolic acid, which escapes readily through any organic tissue such as oiled silk or guttapercha. The putty contains the carbolic acid just sufficiently diluted to prevent its excoriating the skin, while its substance serves as a reservoir of the acid during the intervals between the dressings. Its oily nature and tenacity prevent it from being washed away by the discharge, which all oozes out beneath it as fast as it escapes from the incision; while the extent of the surface of the putty renders it securely antiseptic. Lastly, the putty is a cleanly application, and gives the surgeon very little trouble; a supply being daily made by some convalescent in an hospital, or in private practice by the nurse or a friend of the patient; or a larger quantity may be made at once, and kept in a tin canister. The dressing is changed, as a general rule, once in twenty-four hours; but if the abscess be a very large one, it is prudent to see the patient twelve hours after it has been opened, when, if the towel should be much stained with the discharge, the dressing should be changed, to avoid subjecting its antiseptic virtues to too severe a test. But after the first twenty-four hours, a single daily dressing is sufficient. The changing of the dressing must be methodically done, as follows :—A second similar piece of tin having been spread with the putty, a piece of rag is dipped in the oily solution, and placed on the incision the moment the first tin is removed. This guards against the possibility of mischief occurring during the cleansing of the skin with a dry cloth and pressing out any discharge which may exist in the cavity. If a plug of lint was introduced when the abscess was opened, it is removed under cover of the antiseptic rag, which is taken off at the moment when the new tin is to be applied. The same process is continued daily till the sinus closes.

The results of this treatment are such as correct pathological knowledge might have enabled us to predict The pyogenic membrane has no innate disposition to form pus, but does so only because it is subjected to some preternatural stimulus. In an ordinary abscess, whether acute or chronic, the original cause that led to suppuration is no longer in operation, and the stimulus that determines the continued pus formation is derived from the presence of the pus pent up in the interior. When an abscess is opened in the ordinary way this cause of stimulation is removed, but in its place is substituted the potent stimulus of decomposition. If, however, the abscess be opened antiseptically, the pyogenic membrane, freed from the operation of the previous stimulus without the substitution of a new one, ought, according to theory, to cease to suppurate, while the patient should be relieved from any local or general disturbance caused by the abscess, without the risk of irritative fever or hectic.

Such, accordingly, is the fact. Abscesses of large size have, after the original contents have been evacuated, furnished no further pus whatever, the discharge being merely serum, which in a few days has amounted only to a few drops in the twenty-four hours. Whether the opening be dependent or not is a matter of perfect indifference, the small amount of unirritating fluid being all evacuated spontaneously by the rapidly contracting pyogenic membrane. At the same time, we reckon with perfect certainty on the absence of all constitutional disturbance.

As an illustration, I may mention the last case which has come under my care. It is that of a young woman, twenty-five years old, with psoas abscess, which had of late been rapidly on the increase, and caused a large swelling below Poupart's ligament, communicating with a fluctuating mass, dull on percussion, reaching to a considerable distance up the abdomen, the femoral vessels being raised over the communication between them. Six days ago I opened, in the manner above described, the swelling in the thigh at the anterior part of the limb where it was nearest the surface, giving exit to twenty-seven ounces of pus, thin, but containing numerous large curdy masses. I introduced a piece of lint, dipped in the carbolic acid and oil, into the incision; and this prevented any discharge from escaping during the next twenty-four hours,

* See THE LANCET of March 16th, 23rd, and 30th, and April 27th of the present year (i.e., 1867).

when, on removal of the plug of lint under an antiseptic rag, three ounces of turbid serum escaped. For the next three days there was scarcely any discharge, the deeper parts of the incision having cohered. On firm pressure, however, the product of seventy-two hours escaped, and amounted to four drachms of serum. Meanwhile the girl's general health, which had not been interfered with by the abscess, continued perfectly good, neither pulse, tongue, appetite, nor sleep having been disturbed.

In this case, though there is no deformity of the spine, there is great probability that caries of the vertebræ is present. But even though such be the case, there is good reason to hope for a favourable issue. Regarding caries as merely the suppurative stage of chronic inflammation in a weak form of tissue, I have been not surprised, though greatly rejoiced, to find that it exhibits the tendency of inflammatory affections generally—viz., a disposition to spontaneous cure on the withdrawal of irritation. Hitherto, in surgical practice, caries has had to contend against the formidable irritation of decomposing matter, which, under circumstances of weakness, is often sufficient to cause ulceration, even in the soft parts; yet, in spite of this irritation, caries is often recoverable in the child where the vital powers of all the tissues are stronger. If, therefore, this serious complication can be avoided, there seems nothing in theory against the probability that caries may prove curable in the adult. And even should portions of necrosed bone be present, as is not unfrequently the case, our experience of the treatment of compound fracture with carbolic acid has taught us that dead bone, if undecomposed, not only fails to induce suppuration in its vicinity, but is liable to absorption by the granulations around it.*

Such were the hopes which I ventured to express several months ago to my winter class. Since that time I have opened numerous abscesses connected with caries of the vertebræ, the hip, knee, ankle, and elbow, and in all cases I have found the discharge become in a few days trifling in amount, and in many it has ceased to be puriform after the first twenty-four hours. Finally, three days ago—viz., on the 4th inst., (July, 1867,) I had the inexpressible happiness of finding the sinus soundly closed in a middle-aged man, in whom I opened in February last a psoas abscess, proved to be connected with diseased bone by the discharge, on one occasion, of an osseous spiculum. For months past we had persevered with the antiseptic dressing, although the discharge did not amount to more than a drop or two of serum in the twenty-four hours, well knowing by bitter experience that so long as a sinus existed the occurrence of decomposition might produce the most disastrous consequences; and at length our patience has been crowned with success.

Hence I no longer feel any hesitation in recommending the early opening of such abscesses, because, while they remained unopened, the disease of the bone is necessarily progressive, whereas when opened antiseptically, there is good ground to hope for their steady, though tedious, recovery.

The putty of the strength above recommended, though it generally fails to excoriate the skin, sometimes produces this effect when long continued. In such case it may be reduced in strength so that the oil contains only one part to five or six without disadvantage when the discharge is very small in amount.

The application prevents the occurrence of cicatrisation in the little sore caused by the incision, and perpetuates a trifling discharge from it. Hence it is impossible to judge whether or not the sinus has closed, except by examining it from time to time with a probe, which should be dipped in the antiseptic oil, and passed in between folds of the antiseptic rag. This may seem a refinement, but if we could see with the naked eye a few only of the septic organisms that people every cubic inch of the atmosphere of an hospital ward, we should rather wonder that the antiseptic treatment is ever successful than omit any precautions in conducting it.

The putty used in treating abscesses has proved very valuable in simplifying the treatment of compound fracture, and enlarging the range of its applicability, and also in dealing with incised wounds on the antiseptic principle. But I must defer a notice of these matters to a future occasion.

Glasgow, July, 1867.

* See THE LANCET of March 23rd, p. 359

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Election of President.

AN extraordinary Comitia was held on March 25th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that the Sir Gilbert Blaine medals had been awarded to Staff-Surgeon J. W. W. Stanton, R.N., and Surgeon Bernard Ley, R.N.

The PRESIDENT then delivered the usual annual address, in the course of which he offered congratulations to those Fellows, Members, and Licentiates of the College upon whom Royal honours had been bestowed during the past year, and he also referred to the awards, medals, prizes, and scholarships conferred or awarded by the College. He next mentioned the lectures which had been delivered before the College. The gifts presented to the College were likewise gratefully acknowledged. The President laid stress on the services rendered by the Harveian librarian (Dr. J. F. Payne) in improving and maintaining the library of the College in every way. He then read short obituary notices of those Fellows who had died during the year: Henry Augustus Goodrich, Sir Willoughby Francis Wade, John Henry Bryant, John Henry Bridges, John Cameron, Thomas Harris, Gustave Isidore Schorstein, Edmund Symes-Thompson, and Arthur Ernest Sansom. The President then referred to the congresses held during the year to which the College had sent delegates, and to the communications which had taken place with various departments of State. The financial position of the College, separate and conjoint, was then reviewed. In conclusion, he expressed his thanks for the kindly courteous consideration shown to him by the College during his year of office, and he thanked all the officers, notably the Registrar (Dr. E. Liveing), for the assistance which they had given to him.

Dr. F. W. PAVY proposed a vote of thanks to Sir Richard Douglas Powell for the address which he had just delivered and for the services which he had rendered to the College during his year of office and added a request that the address might be printed.

Sir RICHARD DOUGLAS POWELL returned thanks to the College and acceded to the request to have the address printed. He then vacated the chair.

The REGISTRAR read the by-laws relating to the election of President. The ballot then took place and Sir Richard Douglas Powell was re-elected by a very large majority as President for the ensuing year.

The charge was delivered by the SENIOR CENSOR (Dr. F. T. Roberts) who delivered to Sir Richard Douglas Powell the insignia of office and the PRESIDENT pledged his faith to the College.

Sir RICHARD DOUGLAS POWELL then thanked the College for the honour accorded to him in so cordially re-electing him as President.

The following communications were received: (1) From the secretary of the Royal College of Surgeons of England reporting proceedings of its Council on March 14th; and (2) from Mr. A. Forbes Sieveking requesting that he might have access to the records of the College in compiling a biography of his father, the late Sir E. H. Sieveking. The request was granted.

A report from the committee of management dated March 4th was received and adopted. The committee recommended that the following institutions should be added to the list of those recognised by the Examining Board in England for instruction in chemistry, physics, and biology: Ley's School, Cambridge, and Trent College, Long Eaton.

The quarterly report of the examiners for the Licence on the results of the January examinations was received and adopted.

The PRESIDENT then dissolved the Comitia.

WEST CORNWALL MINERS' AND WOMEN'S HOSPITAL.—On March 23rd Lady Clifden formally opened in the presence of a large gathering a new operating theatre which has been added to the Miners' Hospital at Redruth. The theatre, which is fitted up with all modern improvements, has been erected at a cost of £1460, the whole of which sum has been subscribed.

THE LANCET.

LONDON: SATURDAY, APRIL 6, 1907.

The Eightieth Anniversary of Lord Lister's Birthday.

THE eightieth anniversary of Lord LISTER'S birthday occurs this month and, as we have already announced in our columns, it has been suggested that the event would suitably be commemorated by the republication of his scientific papers prefaced by a short biography. The biography should contain an account of the part played by the genius of LISTER in the development of our knowledge of infectious processes and the history of his efforts to obviate wound infection. It is not too much to say—indeed, it is recognised by the scientific world—that his work in these directions has revolutionised the whole of surgical practice, and has led to the saving of more lives and the prevention of more misery than it is possible to calculate. Lord LISTER'S original papers, to which it is now proposed to give suitable publication, are scattered throughout the medical and scientific publications of this country. They are for the most part accurate observations of his personal labours, a fact which gives them a particular value from the biographical point of view. We are proud to remember that THE LANCET was one of the earliest mediums through which Lord LISTER approached the scientific world, while we were certainly among the first to recognise the enormous bearings upon medicine in its broadest sense that Lord LISTER'S work might have. A meeting of the committee appointed to make a fitting recognition of the anniversary is being held as we go to press. The form and method to be adopted in the publication of Lord LISTER'S papers is to be considered and an editorial body appointed to undertake the work.

We publish this week under the title of "Looking Back" a preliminary note upon what Lord LISTER 40 years ago termed "A New Method of Treating Compound Fracture, Abscess, etc." It has hitherto been our custom, in compiling notes upon bygone medicine from past numbers of THE LANCET, to make our quotations from numbers some 80 years old, the gap between our present-day knowledge and the science of the pre-Victorian era being a very obvious one. On this occasion we need look back but half that number of years to reveal to our readers not a gap but a yawning chasm. In 1867 we are back in a time when it was the rule for an open wound to heal up by a process of suppuration, when the unfortunate victims of a compound injury to bone or joint were submitted at once to amputation, for otherwise they ran such risks from septic fever that many more of them died than lived, and when in the surgical wards of a general hospital deaths from gangrene or pyæmia were regarded as things which had to be expected—as inevitable drawbacks of hospital treatment. It was at this time that LISTER, then professor of surgery in the University of Glasgow, showed by a series of convincing papers, similar in bearing to the brief preliminary note which we reproduce on p. 952, of this issue of THE LANCET, that many of these terrible conditions could be avoided by a routine treatment, of which the application of carbolic acid to the exposed surfaces was the basis. A series of these papers were published in our columns during 1867 and 1868 and an editorial commentary upon them makes interesting reading at the present day. "Although," we wrote, "he (Professor LISTER) bases his surgical use of carbolic acid upon the researches of M. PASTEUR, the application of these researches to the case of compound fractures, opened abscesses, and other recent wounds, is all his own. The need for determining the value of carbolic acid and the best form and mode of using it is most urgent. It is most lamentable to think of the extent to which the best and most refined surgery of the time is being frustrated in our great hospitals and even in those but lately built. The mortality of compound fractures, of the graver amputations and operations, and of lithotomy in our larger hospitals, both provincial and metropolitan, is something frightful. And the occurrence of death with symptoms of blood poisoning is, unfortunately, not confined to cases of serious operation, but happens ever and anon in operations in themselves slight. This risk—the risk of blood-poisoning—is, indeed, now the one great opprobrium of surgery. There is no limit to the operative feats of surgeons, either to the refined skill with which they may be accomplished or to the toleration of them by the anæsthetised patient, but there is a miserable and serious risk in every case, especially in hospitals, of the occurrence of fatal after-consequences, against which—until now, at least—we have had little or no power of resistance." The operator of to-day would hardly consider that we had been accurate in saying of his father's or grandfather's operative feats that there was no limit to them, but he will recognise that the marvellous progress that has been made of late in this domain of medicine has been wholly due to the development of antiseptic surgery as introduced to the world by Lord LISTER, backed by the facilities afforded by anæsthetics.

Our appreciation of Lord LISTER'S work from the beginning is further shown by the concluding words of the same article. It runs as follows: "Mr. LISTER'S papers, which will be found in THE LANCET of the present year (March 16th, 23rd, and 30th, April 27th, and July 27th), go to show that, applied to bad compound fractures, carbolic acid, pure or diluted—Mr. LISTER prefers the pure,—prevents decomposition and suppuration; that though it acts as a caustic, it does so to only an unimportant degree, doing its principal execution on small septic organisms, and but very slightly affecting the vitality of the proper animal tissues; that it favours granulations, and by so doing often saves tissue—even bone, as in Case 5[1]—to a most wonderful extent. As a consequence of these properties, patients with compound fracture are raised very much

[1] The reference is to a remarkable case of compound fracture of the leg in a child where extensive necrosis of the tibia appeared to have actually commenced, but where the antiseptic treatment saved both life and limb.

to the advantage of patients with simple fracture and are saved very largely from irritative fever and prolonged suppuration, to say nothing of pyæmia. The effect of the careful application of the acid on the opening of large abscesses is equally striking. The secretion of pus is almost immediately stopped. Thus in one case of psoas abscess, in which twenty-seven ounces of pus were let out, the future successive discharges were three ounces of turbid serum, and four drachms of serum, respectively. Mr. LISTER'S cases of abscesses connected with diseased bone go far to justify the hope that the use of carbolic acid will so favour the tendency of the bone spontaneously to heal, as to bring caries and large abscesses connected with it within the range of curable diseases. We need say no more to justify our estimate of the importance of Mr. LISTER'S communications on the surgical use of carbolic acid." The leading article, from which with pardonable pride we have made these extracts, formed the first introduction of Lord LISTER'S splendid work to the mass of his professional brethren. His views were not accepted immediately and every change in procedure which he adopted as his own experience grew larger, was welcomed by his opponents as a proof of the instability of the new doctrines. But the results achieved by himself and others working upon his lines were so marvellous that the opposition speedily became fitful and ineffective. Within less than ten years from the date when his first observations were made public Lord LISTER had the satisfaction of seeing the whole practice of surgery in the world revolutionised in accordance with his teachings, and the happiness of knowing that he had actually contributed to the abolition of untold physical misery and the saving of countless human lives.

Medicine and the Public.

UNDER the title of "The Community of Interest of the Medical School and the Public" we have received a copy of a highly instructive address delivered at Yale University by Dr. W. W. KEEN who is professor of surgery in the Jefferson Medical College at Philadelphia and who has received the distinction of an honorary Fellowship from the Royal College of Surgeons of England and from the Royal College of Surgeons of Edinburgh. Dr. KEEN takes as the foundation of his argument what he regards as admitted fact—namely, that the fees paid by medical students can never be sufficient to maintain a medical school in the highest state of efficiency; and, on this basis, he declares that, while it is the business and duty of such a school to give to the public the best-educated practitioners in every department of medicine, and so to increase our knowledge of the science and art of medicine as to render the profession constantly more and more efficient, it is equally the duty of the public to provide all the needed facilities for the making of the best medical men and for the prosecution of original research in order that the medical school may render its best service to the community. Dr. KEEN told his audience, as we have told our readers on many occasions, that the joint work of a college and a teaching hospital is of enormously greater value to the public than the mere care of the sick in a hospital with which no college is associated, and it is greatly to be regretted that this most simple and elementary of all truths has even now by no means sunk into the minds of the great majority of the non-medical persons by whom hospitals are financially supported. I see every year in the hospital, declares Dr. KEEN, scores or even hundreds of patients who go out happy and in comfort, restored to health, and to wage-earning power, and it gives me great pleasure to think about such cases. But when I look at the hundreds of young men whom I have the pleasure of teaching, when I remember that I can instil into them high ideals, when I can bring into their lives the research habit and the desire to learn, and remember that they will go all over the world and cure hundreds, nay, thousands, more than I can, which work is the greater? the curing of my scores of patients or the teaching of hundreds of young men to go out to cure their scores of thousands, and to bring the blessings of many upon their heads for the work that they have learned to do through me? Hence, as medical education becomes every year more and more expensive, and inasmuch as medical students are largely drawn from classes who are not overburdened with wealth, Dr. KEEN regards the provision of educational facilities as being the greatest service which hospitals can render to the community and as the best and most charitable purpose to which the funds of contributors can be applied. This is common sense and it is much to be regretted that so many persons in positions of influence should still be deaf to its appeal. You may, they say in effect, spend your money in curing A but you must not spend it in teaching B and C to cure all the other letters of the alphabet, letters representing sufferers who will never be able to obtain access to your wards and who, if we could have our way, would be left to the tender mercies of ignorance.

The causes which have produced the frequently antagonistic, and almost always unsympathetic and unpractical, character of the attitude of many benevolent persons towards medical education would afford a curious subject for research; and would probably, in the present day, be largely resolvable into Dr. JOHNSON'S candid explanation of an error of his own as a consequence of "pure ignorance." The study of medicine, partly from its engrossing character and partly on account of the limited means of many of those by whom it is pursued, has somewhat tended towards divergence from that study of letters which has long given, and indeed still gives, the tone to public opinion. To those who regard the time spared from professional labours and spent in the pursuit of literature as wasted we commend the stately passage in which GIBBON describes the nobility of the SPENCERS as having been "enriched by the trophies of MARLBOROUGH," but "exhorts them to consider the 'Fairy Queen' as the most precious jewel in their coronet." It may be assumed that only a comparatively small number of the hundreds of lawyers, of clergymen, and of country gentlemen, who pass through the older English Universities, bring away from them any large amount of classical learning; but there will be few who do not bring away sufficient to give them a distaste, hardly distinguishable from contempt, for the jargon of counterfeit Greek which we lately likened to the

language of HUDIBRAS and which is affected by some modern medical writers. Such writers often deal with subjects which in their nature are difficult of comprehension by the lay mind and which therefore call for the most lucid exposition which the skilful employment of words of definite meaning can afford. It is largely, we believe, for the want of such exposition that the enormous practical results of modern medical science are still in great measure concealed from the apprehension of the public and that, save for occasional lip-service on special occasions, there is no real knowledge or recognition of what the medical schools, or the men proceeding from them, have accomplished even in quite recent years for the practical extension of the Empire and for the greater prosperity and greater safety of their fellow subjects.

In dealing with part of the question Dr. KEEN refers, in the first instance, to the victory of JENNER over small-pox; and his words appear to justify the belief that in America, as in Germany, the full fruits of that victory are secured and that they are not lost or imperilled, as with us, by the ignorant time-serving of politicians. He proceeds to the victory over yellow fever, by which the construction of the canal over the isthmus of Panama has been rendered possible, and to that over diphtheria, by which the mortality from one of the most fatal of prevalent diseases has been reduced to the small percentage dependent upon neglected cases. In this enumeration it may be doubted whether he takes full account of the most splendid victory of all, that resulting from the general discovery of the agency of blood-sucking insects in the communication of disease and of the means by which, in due course of time, these insects may be destroyed. He does, indeed, couple the word malaria with yellow fever but the full meaning and the certain results of modern knowledge can scarcely be said to appear in their proper prominence upon his pages. The discoveries of MANSON and ROSS have pointed out the way to the effective opening of territories as large as Australia to the enterprise of merchants and colonists, have practically excluded "climate" from the difficulties to be overcome in tropical countries, and have substituted for it conditions which are controllable by the proper application of human agencies. The disappearance of the whole class of so-called "malarial" diseases from the countries infested by them, and the complete prevention of the terrible "sleeping sickness" and its analogues, are consequences now within measureable distance of achievement as results of medical education; and they are consequences at least as important to the human race as the discovery of America, or as the invention of steam locomotion either by land or sea. It will be a long time before the united energies of the whole tribe of politicians produce anything in the least degree comparable with them; and yet the bulk of the nation regards them not only without gratitude but without any conscious appreciation either of their magnitude or of their character. Quite recently the *Times* contained a letter from Professor RONALD ROSS describing the treatment received by Mr. HAFFKINE at the hands of the India Office, treatment only rendered possible by the existence of conditions which Professor ROSS vigorously describes. In India, in 1893, he tells us, both medical and sanitary administration were in the hands, not of men of distinguished scientific ability, but of ordinary officials climbing upwards by seniority. The country lagged years behind other countries in the scientific study of disease. Discoveries made years previously in connexion with cholera, typhoid fever, malaria, filariasis, and dysentery were looked upon with easy scepticism or even contempt, no adequate public measures being taken to verify or to utilise them; and true scientific work was received with little encouragement or even with persecution. Of such treatment Mr. HAFFKINE has now been the latest example; and, as Professor ROSS declares, unless redress be speedily afforded, India and her rulers will stand convicted of indifference to science, stupidity, injustice, and gross ingratitude to one of their greatest benefactors. Nor, he tells us, has this been the only instance in which these qualities have been displayed towards distinguished but defenceless workers. It is manifest that their prevalence can only be explained on the hypothesis of a most suggestive ignorance at high quarters with regard to the nature of science and to its value in preserving the health and lives of the community.

The Control of Pulmonary Tuberculosis.

PERHAPS the most difficult administrative problem with which preventive medicine is face to face at the present time is that of the control of pulmonary tuberculosis, a disease which yearly claims such a substantial number of able-bodied adults whose labour and health are of far-reaching economic importance to the community. This difficulty is, no doubt, enhanced by the fact that there are constantly arising what may be regarded as false prophets who claim that by adopting the methods which they recommend the disease in question may be made to disappear in an astonishingly short space of time. Again, there are those who are prone to apply to the problem the same arguments and, except for vaccination, the same methods as are applied to small-pox, and who apparently hold the opinion that all those who suffer from pulmonary tuberculosis, even in its initial stages, should be separated from their friends until complete recovery or death. Obviously, having regard to the enormous prevalence of recognised and unrecognised tuberculosis, such a programme is impracticable and those who advocate it do not, we think, evince a due regard either for the teachings of epidemiology or the experience of administration.

But we cannot in this article discuss all the numerous proposals which have from time to time been presented for serious consideration, and we shall limit our references to the notification of the disease and the provision of sanatoriums, both of which may be regarded as within the limits of practicability and both of which have recently been the subject of useful papers and discussions, the former before the Cambridge Medical Society,[1] and the latter before the Architectural Association in London.[2] The debate at Cambridge was helpful, in that it accentuated the fact that a large amount of useful work may be carried out in connexion with the control of the disease without the extreme

[1] THE LANCET, March 16th, 1907, p. 736.
[2] THE LANCET, March 30th, 1907, p. 904.

measure of compulsory notification, the necessity for which and the merits of which have yet to be demonstrated. Dr. A. NEWSHOLME, the medical officer of health of Brighton, in a valuable paper showed it to be clear that a knowledge of the distribution of the condition is necessary before co-ordinated measures for its control can be undertaken, while the real utility of the notification of pulmonary tuberculosis depends upon the purposes to which the data thus collected are to be put and the facilities which obtain locally for the assistance and not the persecution of the patients. For instance, it would seem that in Brighton, where a large number of the patients notified are invited to spend a few weeks' holiday at the isolation hospital as the guests of the corporation, encouraging results, in so far as the actual number of cases notified are concerned, have been obtained; indeed, in this sense, voluntary notification at Brighton has been attended with greater success than compulsory notification at Sheffield. At the former place the visits of the sanitary staff are confined to the homes of the patients and are not extended, so at least we gather from Dr. NEWSHOLME'S observations, to the factories and workshops in which the patients work. The Cambridge discussion was a thoroughly interesting one and we were glad to be able to record at some length the remarks of Dr. J. H. C. DALTON, Dr. DUNCAN FORBES, Dr. L. HUMPHRY, Professor SIMS WOODHEAD, and Professor HOWARD MARSH. The gist of the debate was, perhaps, a little too optimistic with respect to voluntary notification since no reference was made to the places, and they are many, at which such notification has been practically a complete failure. Possibly, too, it may be found that the real value of notification, whether voluntary or compulsory, will be to bring to light early cases of the disease and by this means to reduce the death-rate by the arrest of the malady. But, as Professor HOWARD MARSH observed, the discussion showed that the difficulties surrounding voluntary notification are not so great as some persons have believed, and an extension of the system should tend materially to increase our knowledge as to the methods by which that portion of the disease which is caused by means other than infected milk is spread. The recent pronouncement by the Royal Commission on Tuberculosis has, however, raised issues of the greatest interest and moment, and it is now clear that pulmonary tuberculosis will not be eradicated by attention to the human source alone.

The paper read by Mr. EDWIN T. HALL before the Architectural Association was largely descriptive of existing sanatoriums and constituted a useful contribution to our knowledge of this side of the question. It would have been well had he not referred to the "advance" and "growth" of pulmonary tuberculosis—terms which must have conveyed to his audience the impression that the disease was on the increase, whereas, as was pointed out by Dr. H. T. BULSTRODE in the discussion, the disease has been steadily decreasing in England and Wales for very many years past. The most important parts of Mr. HALL'S paper, as also of the comments made by Dr. T. GLOVER LYON, were those which dealt with the cost of sanatoriums. As is well known, the cost of certain institutions erected within recent years in this country has been somewhere about £1000 per bed, which is an alarming and practically prohibitive one if general provision for tuberculous cases is contemplated. It should, however, be borne in mind that the institutions to which these remarks mainly refer were erected by private munificence and that consequently they are not open to the criticisms which might perhaps be directed against them had they been provided out of local or State funds. If, too, permanent memorials are desired they cannot well take the shape of tents or huts, and the public should have every reason to be grateful for the provision which has gratuitously been placed at their disposal. Possibly we have tended in the past to be influenced unduly by the German type of building. The proposal, however, to erect a sanatorium at a cost (exclusive, presumably, of site, water-supply, and furnishing) of about £85 per bed, brings the provision of these institutions nearer practical realisation, and although it will probably be found that, when all payments have been met and a sufficient amount of land secured to enable the patients to be occupied thereon, this figure will be materially exceeded, it will be well if an opportunity can be afforded for erecting such an institution. But it may be desirable that, before any such scheme is actually embarked upon, a visit should be paid by the promoters to Benenden, in Kent, where a sanatorium is in course of erection and nearly completed, under the auspices of the National Association for the Establishment and Maintenance of Sanatoria for Workers suffering from Tuberculosis. The cost of this sanatorium, as was pointed out during the discussion on Mr. HALL'S paper, is somewhere about £100 per bed, and the project is deserving of every investigation in that it is an attempt to prove that sanatoriums once provided can be carried on by the workers themselves without any further appeal to the philanthropy of the public. There are, too, many other aspects of this scheme which should commend themselves to all serious students of the problem of tuberculosis. We have already suffered great disappointment from idle prophecies and ill-considered theories, and it is not too much to ask reformers to consider the mass of evidence under their hands to be sifted before they embark upon general counsels.

Annotations.

"Ne quid nimis."

HIGH ALTITUDES IN THE TREATMENT OF NERVOUS DISEASE.

WE have received a reprint of an article by Professor Nolda of St. Moritz on the value of high altitudes in the treatment of certain nervous diseases. A variety of observations have been made on the subject, including those of Erb, who wrote on "Winter Cures at High Altitudes," but few statistics have been forthcoming as to their value. Most of the Alpine stations with an altitude over 1300 metres, such as Arosa, Davos, Leysin, and Montana, derive the majority of their patients from sufferers with tuberculosis of the lungs, while St. Moritz receives also many sufferers from anæmia, chlorosis, and nervous conditions. Professor Nolda has observed 3000 patients of various nationalities suffering from nervous diseases and visiting St. Moritz. Those of Jewish origin predominate, but Slavs, notably Poles, and Romance nationalities, especially French, are also numerous. The next in number are Americans and Hungarians, while the Germanic races follow in the following

order: Germans, Danes, Scandinavians, and English. The great majority of his patients were sufferers from neurasthenia, of which there were over 2000 cases. In those of recent origin due to anxiety, mental overwork, or following infectious diseases, alcoholism, and other intoxications, and traumatism lasting benefit is often derived from a stay of from four to eight weeks, but in older and more severe cases a stay of from four to six weeks in summer and a further stay in the winter are desirable. With regard to the effect of the high altitude on the individual symptoms, the headache and vertigo usually disappear within the first few days; the insomnia, however, often persists until the end of the period of acclimatisation, which is usually of from six to 12 days, but sometimes sleeplessness may go on for two or three weeks, which Professor Nolda does not regard as a contra-indication, but if the condition still persists after three weeks he sends such patients to lower levels. On the whole, he finds that 90 per cent. of neurasthenics with insomnia sleep better at high altitudes. The hypochondria associated with the disease usually becomes much less or disappears and Professor Nolda disagrees with the view of Krafft-Ebing, who regarded mental disturbance as a contra-indication. Mild degrees of cardiac neurosis, he finds, derive benefit from a mountain cure, but cases with dilatation or with marked arteriosclerosis should not be sent. Patients with migraine usually entirely lose their attacks from the day of arrival. Other visitors showing marked improvement are those with slight degrees of hysteria, melancholia, and epilepsy. Professor Nolda also finds that cases of spasmodic asthma of nervous origin derive much benefit, no less than 70 per cent. of them losing their attacks very shortly after arrival at St. Moritz, and in support of this he finds that the disease is absolutely unknown amongst the native-born inhabitants. It is a familiar fact that the Alpine health resorts owe a great deal of their vogue among those whose ordinary occupations are strenuous and exacting to the clear, rarefied atmosphere and to the exhilarating effects of the meteorological conditions found there, and it might *a priori* be expected that in conditions of moderate neurasthenia and the functional nervous, cardiac, and digestive derangements associated with it, such surroundings would be beneficial, but it should also be borne in mind that many such conditions are the result of overwork or over-stimulation, and that therefore enforced rest under as favourable conditions as possible is the rational form of treatment. It would seem therefore that high altitudes should be recommended in the first instance to mild cases or, as an after-care, in more severe conditions.

SENTIMENT AND HYGIENE.

IT must be admitted that in many instances hygiene is directly opposed to sentiment and *vice versâ*. The passing of the chalice or the loving cup from mouth to mouth is instinctively regarded as a process opposed to cleanly ideas, and medicine teaches how objectionable such a proceeding is and how it may easily hand on disease. But sentiment wins at every city dinner. Hygiene declines to agree with the sentiment that we must not dust an old bottle of port or claret covered with cobwebs and mould and removed from a cellar which must contain a deposit alive with, it may be, appalling bacteriological potentialities. Hygiene, again, would condemn the highly seasoned and oil-stained meerschaum or briar pipe, but sentiment says there is no pipe like it for a cool, well-flavoured, and pleasing smoke, besides which such a pipe has numberless associations, and the very sight of it recalls pleasant personal experiences. Hygiene dictates the removal of all so-called dirt films and the bringing to light of an exquisitely cleaned and smooth surface whereon no bacteria can find lodgment; sentiment prefers the tone and dignity of deposit and loathes a brand new stone, brick, or tile. Hygiene would dispense with curtains and carpets and bid us live in rooms with walls and floors polished like a well-appointed dairy. To these things the sentiments of some people, at all events, naturally object. Hygiene has long attempted to banish the open fire, but sentiment has strongly, and so far successfully, resisted this attempt. Neither must there be smoke in the landscape if hygiene has its full sway, whatever art or sentiment may say. We cannot be found as advocates, however faint, of the smokiness of London, but the painters and etchers of less murky cities are never tired of pointing out the æsthetic possibilities of our capital with its blurred outlines and suggestive shadows. Hygiene would take away the jelly from the dietary because it is an excellent culture medium for micro-organisms; sentiment bids it stay. Instances could easily be multiplied. With hygiene there is no middle course. Its cry is sterilise, sterilise, scour, scour, but to sentiment sterilisation and scouring mean often a lost joy. How, then, can the strife between sentiment and hygiene be ended? Until knowledge is absolute it is impossible to say, for much that may be demanded in the name of hygiene now may be rescinded to-morrow because our sight is defective. Our consolation must be that in the great affairs of life hygiene does not necessarily make the world less beautiful, while the deference paid to well-founded sentiment increases with the improvement of our manners.

RAILWAY TRAVEL IN ITALY: ITS SANITARY DEFECTS.

"IT is not only the vexatious unpunctuality, the defective accommodation, the frequent accidents due to inadequate *personnel*, that are evoking protests from the travelling public at home and abroad" (writes an Italian correspondent), "but the utter neglect of those sanitary observances and provisions which, always more or less in evidence in British, French, Belgian, Dutch, Swiss, and German railways, are conspicuously absent in those of Italy. Her most widely diffused journal—the *Secolo* of Milan—makes pointed reference to this shortcoming, beginning with the insufficient supply even of 'first aid' relief when one of the now too common collisions or 'deragliamenti' (derailments) occurs, the loss of time before the injured traveller receives professional assistance, and, when such is available, the lack of 'oggetti di medicazione' (surgical *matérial*), even of the means of transport from the scene of 'accident' to a place of shelter where adequate treatment is possible. In the strictly hygienic sphere, continues the *Secolo*, what has Italy done to make her passenger traffic safe or free from risk? Infective disease, most of all tuberculosis so frequently conveyed in the person of the phthisical patient, finds many a 'candidate' in the unsuspecting traveller, thrust at the eleventh hour into a carriage overcrowded, overheated, subjected to no disinfecting process, though it may have an hour or two before been occupied by the sufferer from variola, from scarlet fever, or from diphtheria. Resorted to as she is by so many people in all stages of lung disease in quest of sunshine and warmth, Italy ought to have a reserve of carriages specially set apart for such cases. There are the sleeping-car, the dining-car, and the carriage for *dames seules*. Why not the special carriage, or even compartment, for the invalid? Such, it seems, is not to be had except at a prohibitive price; and so the healthy traveller has to take his chance beside a tuberculous subject or a diphtheritic *vis-à-vis*. The stations, again, in which the belated traveller has to spend weary hours are often the seat of every sanitary risk, from the impure water-supply and the evil-smelling latrines to the

waiting-rooms themselves, where the superannuated sofas—thanks to the overheated atmosphere diffused from ill-regulated *caloriferes*—give out again all that they have absorbed from relays of sitters, many of whom are the reverse of fanatical on the score of personal ablution. The buffets, too, at which a hasty meal may be snatched or a more leisurely repast consumed in expectation of a train 'in ritardo' are not always supplied with such food or drink as the invalid or even the healthy subject can safely indulge in—tinned meats or "preserved" vegetables or portable soups of uncertain date often entering into the menu. The same may be said of the wines and the mineral waters, not invariably an innocuous alternative to the so-called 'acqua potabile' of subsoil origin! The British press, professional and lay, to which Italy appeals for countenance in carrying through her much required railway reforms, has done much, and may do still more, in impressing upon the central authority at Rome the urgent need for making passenger traffic less fraught with discomfort and risk and loss, by consequence, of a deterrent. There have been this season, it is said, fewer arrivals from the British Isles than Italy has known for many a day; but with the obstacles which she places in the path of her most welcome visitors, her press, headed by the Milanese journal, is more than justified in exclaiming '*Quid mirum!*'"

MILK-SUPPLY AND THE LONDON COUNTY COUNCIL.

ON the ground that many of the powers sought in the General Powers Bill, which stands for second reading in the House of Commons on April 11th, are controversial and would if retained delay the passage of the Bill the Parliamentary Committee has advised the Council to delete what are considered to be the contentious clauses. These include proposals relating to the sale of milk which were as follows: (1) to enable the Council to prohibit the sale of milk from any dairy situated within or without the county in which the medical officer suspects that cases of infectious disease within the county occurring in more than one sanitary district are attributable to the milk supplied from such dairy; (2) to enable the council to take samples of milk at railway stations and elsewhere in the county with the view of preventing the sale of milk unfit for human consumption; (3) to enable the council's medical officer to require dairymen to furnish lists of sources of milk and of their customers with a view of preventing the spread of infectious disease; and (4) to require dairymen to notify under penalty all cases of infectious disease among their servants and to prohibit any person suffering from an infectious disease from milking any animal the milk of which is intended for consumption within the county. On the face of it, the decision of the Council to drop these clauses appears to be opposed directly to the canons of preventive medicine. Nothing is more certain than that contaminated milk is a very serious factor in the spread of infectious disease and therefore it is of the utmost importance that the public health should be jealously guarded by placing everything connected with the production and distribution of milk under an efficient system of control. It is, in fact, difficult to imagine any other clauses in the Bill which can relate to questions of greater importance. The Council's anxiety seems to be to get the Bill through the House this session, and the feeling apparently is that if the milk clauses are retained the chances of the Bill passing would be very remote owing to the opposition shown by all kinds of authorities. We are aware that county and municipal authorities have already large powers for dealing with the milk-supply, but it is obvious in the case of London that powers are wanted to deal with the milk at its source of supply as well as at the distributing agencies. The Bill introduced by Mr. John Burns in the House of Commons a week ago does not relate to these questions, but merely seeks to sanction regulations for the supply of sterilised milk from municipal milk depôts without rendering the local authorities liable to surcharge by the official auditor.

AN IMPERIAL CONFERENCE ON HYGIENE AND TEMPERANCE.

IN order to stimulate general interest in the scientific teaching of hygiene and temperance as an integral basis of national education, and to bring before the country during the visit of the Colonial Premiers trustworthy information as to what is done in various parts of the Empire, a committee, numbering among its members Sir Lauder Brunton, Sir Thomas Barlow, Mr. A. Pearce Gould, Sir Victor and Lady Horsley, Mr. W. McAdam Eccles, Surgeon-General G. J. H. Evatt, Mr. C. H. Watts Parkinson, Mr. A. W. Mayo Robson, Dr. E. Claude Taylor, and Professor G. Sims Woodhead, has been formed to convene a Conference on the Teaching of Hygiene and Temperance in the Universities and Schools of the British Empire on St. George's Day, April 23rd. The conference has the approval of Lord Elgin, Secretary of State for the Colonies, who has promised to attend if his engagements at the Colonial Conference permit. Lord Strathcona and Sir John Gorst will respectively take the chair at the morning and afternoon sessions. Arrangements have been made for officially appointed educational experts to describe colonial systems of teaching the two subjects, while papers will also be read by leading continental *savants*. Further information and tickets of admission may be obtained from the honorary organising secretary, Miss St. John Wileman, 11, Chandos-street, Cavendish-square, London, W.

PRECIPITINS.

THAT scientific discoveries apparently most recondite and far removed from practical application may ultimately prove of great commercial or technical value might be demonstrated by innumerable examples. One such is seen in the application of the recently discovered precipitin reaction of Tchistovitch to medico-legal investigation. When the blood of one species of animal is injected into the body of an individual of another species it is found that the serum of the latter acquires the property of giving rise to a precipitate when added to a solution of the serum of the former or to a solution of any albuminous material derived from that species. By this means it is possible to identify, for example, bloodstains as human which by microscopical examination could only have been certainly ascertained to be of some mammalian origin. The reaction is indeed not absolutely specific, since blood from a nearly allied species—e.g., apes—may give a somewhat similar result, but it is not difficult to distinguish the two by quantitative tests. The precipitin reaction is now definitely recognised as a medico-legal test of great value in countries so diverse as Germany, Austria, the United States, Egypt, and Roumania. No instance of its employment in this country appears to be recorded. But the value of the reaction is not confined to this field. Its delicacy is such that it far surpasses the ordinary methods of proteid coagulation as a chemical test for these substances; it may be applied to detect adulteration in food materials, and has been employed by the biologist as a proof of a true group-relationship between animals of allied species. The interesting investigations of Professor D. A. Welsh and Dr. H. G. Chapman[1] have thrown a new light on the actual nature of the phenomenon of precipitation. They find that the substance precipitated is derived

[1] Welsh and Chapman: Proceedings of the Royal Society, B., vol. lxxviii., 1906.

mainly from the antiserum, not from the albuminous material ("homologous proteid") with which it reacts. The actual solid content of precipitating antiserum is increased as compared with the normal serum from an animal of the same species. At present it is impossible to calculate the quantities of serum and homologous proteid which take part in the reaction by any simple chemical equation, but the observers just quoted see no reason to doubt that a definite chemical reaction does occur.

MEDICAL REFEREES UNDER THE NEW WORKMEN'S COMPENSATION ACT.

THE development of the scope of the Workmen's Compensation Act, 1906, which comes into force on July 1st next, by which it is estimated that 6,000,000 workers will come under its provisions who were not affected by the Act of 1897, has caused us again to review carefully the Act in the interest of the medical profession. We have on several occasions pointed out that the question of the regulations to be made by the Secretary of State for the Home Department is one of the greatest importance, but the question of the appointment of medical referees is, we venture to think, one of certainly not less moment. The medical referees under the new Act will be called upon to decide between the conflicting views of medical practitioners, to give opinions in obscure and difficult surgical cases, and their decisions are to be final; they are therefore to act as judges, from whose decisions there is no appeal. In these circumstances it is perfectly clear that the practitioners selected for these posts must be of sufficient recognised standing to possess the confidence of their medical *confrères* in the several districts. Medical men will willingly meet in consultation and place their considered opinions before a medical referee for final judgment and award where the medical referee enjoys a high professional position and reputation, but these qualifications are necessary if the decisions of the referee are to be accepted as satisfactory solutions of points in dispute. We trust that the Secretary of State will, in the appointment of medical referees under the Act, meet the wishes and requirements of the profession, so that the medical regulations may work smoothly and without friction.

DEATHS IN PUBLIC INSTITUTIONS

THE recently issued report of the Registrar-General calls attention to the fact that during the year 1905 no fewer than 91,597, or 17·6 per cent., of the deaths registered in England and Wales occurred in public institutions, including workhouses and workhouse infirmaries, hospitals, and public lunatic asylums. It is, moreover, pointed out that the average percentage of these institution deaths in the ten preceding years 1895–1904 did not exceed 14·6. The increase in the proportion of deaths in each of the three classes of institutions has, indeed, been marked and constant during the past 30 years. In 1875 the proportion of deaths registered in public institutions did not exceed 8·8 per cent., which was but half the percentage in 1905. It must, however, be borne in mind that the number of these public institutions in which deaths are recorded has more than doubled during the 30 years. The separate workhouse establishments have increased from 715 in 1875 to 816 in 1905; hospitals and infirmaries from 582 to 1833; and public lunatic asylums from 83 to 136. The proportion of deaths recorded in workhouse establishments increased from 5·6 per cent. in 1875 to 9·4 in 1905; the percentage of deaths in hospitals during the 30 years increased from 2·3 to 6·3, and in public lunatic asylums from 0·9 to 1·9. The number of hospitals in England and Wales has, it appears, more than trebled during the 30 years under notice, owing mainly to the marked increase in the number of cottage and isolation hospitals during that period. The fact noted in the Registrar-General's report that 32,899 deaths were registered during 1905 in the 1833 hospitals included in his list affords an entirely inadequate indication of the constantly increasing benefit which these charitable institutions confer on the public through the self-denying and honorary services rendered by their surgical and medical staffs. It seems impossible to doubt that the steady increase of hospital accommodation and service is at least one of the factors in the persistent improvement in public health during the past 30 years.

SPARTEINE SULPHATE IN POST-OPERATIVE SUPPRESSION OF URINE.

IN the *Medical Record* of Jan. 19th the value of sparteine sulphate in the prevention and the treatment of post-operative suppression of urine is recorded by Dr. Stuart McGuire. Suppression of urine after an operation is found in cases where nephritis pre-existed owing to sepsis or cholæmia. As it does not develop until 24 or 36 hours after the operation it would appear that it is not due to shock. A patient operated on for retention of urine or jaundice occasionally does well for two or three days and then suddenly passes no more urine, becomes listless, restless, and then develops a stupor, rapidly deepening into a coma, and ultimately dies with all the symptoms characteristic of uræmia. Dr. McGuire has a record of six cases in which sparteine sulphate was the means of saving the patient's life. The drug increases the blood pressure, makes the pulse slower and stronger, and acts as a powerful diuretic. Doses of from one to two grains are given hypodermically and are repeated every three to six hours. The action is manifest in 30 minutes after administration and lasts for from four to six hours. Its employment should not be delayed until suppression of urine occurs, since it is a prophylactic as well as a curative agent. Dr. McGuire prefers sparteine sulphate to the drugs of the digitalis type owing to its rapidity of action and the efficiency of the results. It is noteworthy that the dose recommended is large as compared with the doses usually given—viz., one-tenth of a grain. Dr. McGuire failed to obtain good results with the usual remedies for suppression of urine, including the administration of water by the mouth and rectum and under the skin, strychnine and nitro-glycerine, calomel and saline purgatives, hot packs, vapour baths, and counter-irritants.

EUGENICS AND DESCENT.

Mr. Brudenell Carter, in the current number of the *Cornhill Magazine*, writes a suggestive commentary upon the endeavour of Mr. Francis Galton to establish an ordered knowledge of the conditions of parentage such as might tend towards the improvement of future generations of men, that being a sufficiently near definition of the science of "Eugenics." Mr. Carter's light but learned essay will hardly be regarded by Mr. Galton's followers as encouraging, for he evidently believes that we know as yet so little, at any rate so little for certain, of the influences of heredity that we are not in a position to say what is or what is not an atavistic result, or where or when a "throwback" will occur. It is evident that to bring about a progressive improvement of the human race by a system of selective marriages would imply a total remodelling of our social theories and procedures, and before embarking upon such a revolution we have a right to ask those who press it upon us how far they can predict any surety of results to be obtained by selective mating. Taking into consideration the way that the world now lives, it is beyond the power of prophecy to foretell that the children of a good or successful man will display the qualities or virtues which their parents have displayed.

Modern civilisation has produced so many complications, the rise and fall of commercial fortunes is so much more rapid, the commingling of classes is so much more general and intimate, that the parental influence whether moral or social has not the force that it formerly had. Physically the advocate of selective breeding is upon strong ground, for the whole world joins with the medical profession in condemning the union of the physically unfit. But the whole world also knows that we must not look to the heroes of muscular achievement as the ideal progenitors of a sane and well-balanced stock. We refer our readers to Mr. Carter's interesting article in which, writing from something this point of view, he shows that before any method of scientific race production can be considered by the legislature it will at least be necessary, to quote his words, "that the laws of inheritance should be as firmly established as those of physics, and that the consequences produced by violations of them should have been brought home to successive generations by the hard teachings of experience."

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

IT is announced that the Fourteenth International Congress of Hygiene and Demography will be held in Berlin from Sept. 23rd to 29th. The meetings will not continue longer than till 2 P.M. each day in order that the afternoons may be devoted to visiting the numerous hygienic institutions of Berlin and its environs. There are more than a hundred such establishments which can be visited in this way, some of them without any restrictions and some by specially conducted parties. In order that the members of the congress may be able to select those in which they happen to feel most interest a "Hygienic Guide" will be issued containing short descriptions of the various institutes in three languages. Dr. Eilsberger, privy councillor in the Department of Public Worship and Education, is the president of the local committee. The general secretary of the congress is Dr. Nietner, Eichhornstrasse 9, Berlin 9 W.

BRIGHT SUNSHINE.

DURING the last fortnight of last month the brilliance of the weather was extraordinary, as will be gauged from the following figures:—

Stations.	Number of hours.	Difference from average.
Aberdeen	100	+ 42
Scarborough	113	*
Harrogate	119	*
Blackpool	110	+ 55
Llandudno	116	+ 60
Torquay	136	+ 68
Bournemouth	134	*
Brighton	111	+ 41
Eastbourne	126	+ 62
Hastings	128	+ 51
Folkestone	120	*
Margate	128	+ 68
Clacton	114	*
Lowestoft	121	*
Bath	136	*
London	90	+ 53

* No trustworthy average.

Such a general absence of cloud as is here indicated has not been experienced at the same time of year during the present generation and an excellent example is furnished of what the British climate would often be in early spring if anticyclones, and not cyclones, were the prevailing weather systems. On the coast fog and mist were practically non-existent except for a brief time about sunrise, and it was only in London that that unwelcome and belated visitor exercised any appreciable effect on the number of hours of sunshine. Had the atmosphere in the metropolis been as free from smoke and dust as it was in the country there is every reason to suppose that in spite of the almost stagnant air during the latter part of the period, which in the actual circumstances rendered the fog possible, London would have fared nearly as well as did the resorts on the coast. As it was, the sunshine in London (Westminster) for the whole month—152 hours—was much higher than any experienced during March since the automatic records commenced in 1881. While there can scarcely be a doubt as to the healthy influence of the abnormal sunshine it is questionable if the absence of rain which invariably accompanies anticyclonic weather is an unmixed blessing. London and several other districts had no more than half the usual amount of rain during last month, and what is, perhaps, more serious still, the quantity that has fallen since Jan. 1st in the metropolitan area and many other localities in the south and east of England has been only about 50 per cent. of the ordinary amount.

CELLULITIS AND MYOSITIS OF THE ABDOMINAL WALL SIMULATING INTRA-ABDOMINAL DISEASE.

IN the *Journal of the American Medical Association* of March 2nd Dr. J. M. Hitzrot has pointed out the close resemblance which may exist between inflammatory conditions of the abdominal wall and intra-abdominal disease—a subject which has received little attention. He relates the following case. A youth, aged 18 years, was admitted into hospital complaining of pain in the right side of the abdomen. He ate a heavy meal eight days before and awoke next morning with pain in the abdomen, at first diffused but later becoming localised on the right side. It was cramp-like and occurred in paroxysms. It disappeared for about three days, leaving only a dull ache in the right side. On the fourth day it returned in great severity to the right side, which gradually grew tender. At the onset the patient vomited and the vomiting recurred at intervals but was never distressing. The bowels were constipated but acted freely to medication. On examination the face was flushed, the pulse was 104, and the temperature was 103·6° F. The respiratory movements were limited above the umbilicus and were absent below it. The abdomen was slightly distended and everywhere slightly tender. In the right iliac region was a hard, readily defined, very tender mass, extending from the anterior border of the rectus well into the flank and from the level of the umbilicus to an inch from Poupart's ligament. In this area there was marked muscular rigidity. Gentle percussion over the mass gave a tympanitic note. Acute appendicitis with abscess was diagnosed. An incision was made over the mass through the external oblique muscle. A small quantity of sero-sanguineous, slightly purulent fluid was found on the internal oblique muscle, which was œdematous and rather indurated. On cutting through it considerable œdema and induration were found in the subperitoneal tissue and the peritoneum seemed swollen and œdematous. The peritoneal cavity was opened and the intestines and appendix were found to be normal. As the appendix was very long it was removed. The peritoneum was carefully closed. The muscular and fascial layers were closely approximated, a drain was inserted at each angle of the wound down to the peritoneum, and the wound in the skin was closed with silk. A reddish grumous discharge of pus and muscle cells took place for about 12 days and the wound broke open. The discharge then

gradually ceased and the wound rapidly granulated. Recovery was uneventful. From the wound at the time of operation the staphylococcus pyogenes aureus was obtained in pure culture. The indiscretion in diet, the abdominal pain, at first generalised and then localised on the right side, the accompanying vomiting and constipation, the subsidence of the pain after catharsis and return in greater severity, the fever, rapid pulse, and tender hard mass in the region of the appendix, all seemed to point to disease of that organ. The literature of such conditions of the abdominal wall is scanty. Hiller has reported the case of a woman, aged 23 years, who complained of occasional pain in the region of the gall-bladder for three and a half years.[1] For two months the pain had been more severe and the patient noticed a tumour which had gradually enlarged. On examination a smooth, somewhat moveable, easily palpable tumour of the size of a goose's egg was felt in the region of the gall-bladder, two fingers' breadth below the costal margin. It seemed to have a thin pedicle leading up under the costal margin and did not seem to be adherent to the abdominal wall. An operation for cholecystitis was performed but an abscess of the right rectus muscle infiltrating the adjacent muscles was found. No connexion with the peritoneum or ribs could be found. Allison has recorded a case of abscess of the abdominal wall simulating malignant disease of the transverse colon in a coloured girl, aged 16 years.[2] The region of the umbilicus was tender and showed a swelling which resembled malignant growth. On operation a tuberculous abscess was found between the rectus sheath and the peritoneum.

INFANT MORTALITY AND MILK IN THE PHILIPPINE ISLANDS.

A New York correspondent writes: "The annual report of the Bureau of Health of the Philippine Islands, from July 1st, 1905, to June 30th, 1906, has just been issued in the United States. This is the only Bureau of Health under the American Government and much excellent work has been performed in Manilla and in other parts of the Philippine Islands by it and by the health boards which preceded it. Some three years ago the bureau began the systematic education of the public in matters pertaining to the care of infants. A committee of native physicians prepared a special bulletin and distributed it among the people. The bulletin contained the usual propaganda. Particular emphasis was placed on the value of proper feeding, and it was shown that mother's milk is the natural food for infants and that the next best substitute is cow's milk. Since the issue of the bulletin the consumption of milk in Manilla has increased 500 per cent., but, alas, this has had no effect in checking infant mortality. The fault has been soon found to be in the lack of care exercised with regard to the vessels and receptacles in which milk is kept and the failure to take the precautions necessary to keep the milk fresh. Contamination also at the period of milking must be taken into consideration. Nearly 95 per cent. of the milk used is obtained from the carabao which is by nature a dirty animal. A sanitary code which it is hoped will become law soon provides that all milk-dealers in the Philippines shall register at the Bureau of Health and that all vessels or receptacles used by them to contain milk shall be made of smooth impervious material which is capable of being thoroughly sterilised, and provided with suitable covers. The code also provides against adulteration by insuring that all milk sold or offered for sale shall be at all times subject to examination and analysis by the Bureau of Health and that diseased milch animals may be summarily condemned and destroyed. It is anticipated that there will be difficulty in getting the code transformed into law and that even then regulations will not easily be preserved intact. But in the end the health of the infants will surely be benefited."

[1] Beiträge zur Klinischen Chirurgie, 1899, p. 826.
[2] Medical News, 1891, xxv., p. 217.

THE CONSUMPTION OF ALCOHOLIC BEVERAGES.

A RETURN presented to Parliament by the Board of Trade gives some interesting particulars with regard to the consumption of alcoholic beverages in the year 1905. It is stated that in the United Kingdom the consumption of wine has been falling continuously since 1899 and in 1905 amounted to only a little more than a quarter gallon (0·27 gallon) per head. The average for the period 1901-05 is a little higher, being 0·32 gallon. The consumption of beer in this country shows some fluctuation. In 1891 the consumption of beer per head of the population amounted to 30·2 gallons, from which point it fell yearly until in 1894 it was 29·5 gallons. From 1894 it rose steadily until it reached 32·6 gallons in 1899, since which year it has again steadily declined, and in 1905 it amounted to not more than 27·7 gallons. In Belgium the consumption of beer per head of the population in 1905 was 40·8 gallons, and in Germany 26·3. During 15 years the consumption of spirits per head of the population in this country has followed nearly the same course as the consumption of beer, having been low (0·97 proof gallon) in 1894, from which point it increased yearly to 1·09 gallons in 1899 and to 1·11 gallons in 1900. It has since decreased each year to a total of 0·91 gallon in 1905. It is difficult to attach any exact meaning to these figures, but the common impression is that the amounts consumed vary directly with the spending power of the public. So long as wines of the light kinds are sold at an unreasonably high price so will the demand for ardent spirits, and especially whisky, be maintained, for whisky and soda water provide a stimulant which is cheaper than wine, and people do not concern themselves so much as to the æsthetic qualities of wines as they used to do, while the average purse is not so long as it used to be.

INTRA-ORBITAL INJECTIONS OF CYANIDE OF MERCURY IN SYMPATHETIC OPHTHALMIA.

A METHOD of treatment of sympathetic ophthalmia, which is claimed by the proposer, Dr. G. Valois, to have been practised successfully by him in several cases, has been published in Professor Galezowski's *Recueil D'Ophtalmologie* (No. 1, 1907). One of the cases recorded is that of a child, aged seven years, who in playing with a knife inflicted on himself a severe penetrating wound of the cornea. Dr. Valois saw the patient on the evening of the same day, when there were blood in the anterior chamber and a large hernia of the iris. An iridectomy was performed and a part of the blood was removed. The case went on well for eight days, when suddenly the intra-ocular tension diminished, a zone of redness appeared surrounding the cornea, and pain was felt in the globe. Soon after the opposite eye became affected. The sclerotic reddened, the cornea presented a fine descemitis, and the iris ceased to respond to light. Enucleation of the injured eye was at once practised and 24 hours later all the symptoms in the sympathising eye were relieved. Ten days afterwards, when the patient was about to be discharged from the hospital as convalescent, a fresh attack of inflammation with descemitis supervened, large exudates in the form of a triangle appeared on the posterior surface of the cornea, and the iris could not be dilated with atropine. The eye was manifestly in great danger. Dr. Valois therefore promptly injected deeply two drops of a 1 per cent. solution of cyanide of mercury into the orbit of the enucleated eye. On the following

day the redness had diminished. Two days subsequently a second similar injection was made and it was observed that whilst the redness still diminished the descemitis persisted. Ten days were now allowed to elapse, at the end of which time ten drops of the cyanide solution were injected. Four days after redness had disappeared and the subsequent progress of the case was in all respects satisfactory. An objection to this mode of treatment is the extreme pain caused by the injection.

EPIDEMIC CEREBRO-SPINAL FEVER.

SINCE our last issue there has been no special event to record in connexion with the epidemic of cerebro-spinal fever beyond the occurrence of sporadic cases in localities hitherto unaffected. In London a case has been removed from Shoreditch to the Eastern Hospital of the Asylums Board. Cases have been diagnosed at Hutton in Essex and at Tipton in Staffordshire, and fatal cases have occurred in Salford and at Ripley, near Derby. In Edinburgh seven cases have been notified as presenting suspicious features; four of these have been removed to a hospital, four patients have died, and 14 remain under observation. In Glasgow the conditions show no alteration. There has been an extension of the disease in Aberdeenshire. The first case in this county was mentioned in our issue of March 23rd, p. 826, as occurring in the Cluny district, and a niece of this patient has since been attacked at Kintore. A fatal case has occurred in Stirling. In Belfast the public health committee has decided to make no daily statement as to the progress of the epidemic but in future to give only a weekly return of the number of cases and the deaths that have occurred each week. Since the commencement of the outbreak in this city there have been 228 cases with 138 deaths.

THE REGISTRATION OF PLUMBERS.

AN interesting leaflet has reached us in reference to this subject, being a reprint of a discussion on the matter which has recently been taking place in the columns of the *Liverpool Daily Post*. Mr. W. D. Caröe, the Master of the Worshipful Company of Plumbers, points out that the propriety and utility of a system of registration of plumbers were first publicly debated in Liverpool, when the British Medical Association held its congress there in 1883, while in the following year, when the International Health Congress was held in London, the whole question of the means of insuring the qualification and responsibility of plumbers and the efficiency of their work in its sanitary relation was considered by a great gathering of plumbers, architects, and sanitary authorities. It was then seen that inferior work and appliances constituted in a great measure the cause of the falling into disuse of the apprenticeship system and the increase of untrained men in the ranks both of employers and employed. The education and registration of the plumber followed and at the present time we are happy to note that 14,000 plumbers have been enrolled upon the register. Much of the success of the Worshipful Company of Plumbers in this matter is no doubt due to the fact that the Company exists solely for the benefit of the public and the advancement of craftsmanship and that it is in no way concerned with trading or trade profits as such. The work of the Company would be easier and its benefits more widely spread if the public could be induced in their own interests to give employment wherever possible to registered plumbers only. The avoidance of structural defects in the dwelling-house is one of the most important factors in domestic hygiene, and the general health of the community is not a little dependent upon the way in which the plumber carries out his work. The concluding editorial remarks of the *Liverpool Daily Post* sum up the situation exactly: "Really competent men would be certain to welcome a compulsory registration test. Incompetent men ought either to be compelled to make themselves competent or to be by law forbidden to practise."

A SESSIONAL meeting of the Royal Sanitary Institute will be held at the Parkes Museum on Tuesday, April 9th, at 8 P.M., when a discussion will take place on the Aim and Scope of Women's Work in Relation to Public Health. The discussion will be opened by Dr. H. Meredith Richards, medical officer of health of Croydon. General discussion is invited and Colonel J. Lane Notter, R.A.M.C., chairman of the council of the institute, will preside.

THE spring meeting of the South-Eastern division of the Medico-Psychological Association will be held, by the courtesy of Dr. F. R. P. Taylor, at the East Sussex County Asylum, Hellingly, on Wednesday, April 17th, commencing at 12 noon.

A TELEGRAM from the Governor of Hong-Kong received at the Colonial Office on March 25th states that there were 3 cases of plague reported during the week ending March 23rd and 3 deaths from the disease.

THE RÔLE OF THE BLOOD PLASMA IN DISEASE.

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PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, WELBECK-STREET.

VI.[1]

THERAPEUTICAL DEDUCTIONS.

WE have seen what a large part the plasma plays in shaping the destinies of the organism: in determining the various phases of evolution, in promoting senile decay, and in setting up morbid processes. As regards the latter it is no exaggeration to say that the rôle of the plasma in the genesis of disease is all-predominating, and that the future of pathology and therapeutics is essentially bound up in this subtly complex fluid.

That the majority of the diseases which the physician is called upon to treat are plasmic in origin is made manifest by a glance at the appended list of disorders which are admittedly induced through the plasma. The classification adopted, though obviously not a logical one, suffices nevertheless for our purpose.

1. All the bacterially induced diseases, such as the exanthemata and allied affections—e.g., scarlet fever, measles, small-pox, typhus fever, typhoid fever, influenza, rheumatic fever, mumps, diphtheria, and cholera; such disorders as pneumonia, cerebro-spinal fever, infantile paralysis, acute ascending paralysis; a multitude of unnamed febriculæ, including "common colds"; the various tuberculous affections—e.g., phthisis pulmonalis, tuberculous meningitis, tuberculous kidney; gonorrhœa and syphilis in its multitudinous manifestations.

2. All inflammatory affections, with the exception of those due to direct irritation from without (as may happen, for example, in gastritis, bronchitis, and dermatitis).

3. Diseases due to the introduction of poisons from without—e.g., alcohol, opium, tobacco, tea, lead, arsenic, and mercury.

4. Gout and those numerous allied affections grouped under the term "rheumatic," such as muscular rheumatism and fibrositis—e.g., lumbago.

5. Numerous non-gouty affections of the joints, such as pyæmic and syphilitic arthritis, rheumatoid arthritis, chronic rheumatism, and many allied arthrites, impossible at present to classify.

6. The various hormonic disorders—e.g., Graves's disease, myxœdema, Addison's disease, and acromegaly.

[1] Articles I., II., III., IV., and V. were published in THE LANCET of Feb. 2nd (p. 313), 9th (p. 376), and 23rd (p. 536), and March 16th (p. 754) and 23rd (p. 827), 1907, respectively.

7. Spasmodic asthma, megrim, and diabetes.

8. Infantilism, delayed or premature puberty, and premature senility.

9. Such well-known affections of the blood as purpura, scurvy, chlorosis, pernicious anæmia, and leucocythæmia.

10. All the so-called "primary" degenerative affections of the nervous system, with the possible exception of such diseases as Friedreich's and those which are excited by excessive functioning; most functional nervous disorders, including insanity, megrim, neuralgia, headache, and those multitudinous minor nervous disturbances to which almost all civilised human beings are occasionally liable.

11. Practically all the organic diseases of the cardio-vascular system other than the congenital and those due to muscular strain. As instances of heart disease caused through the plasma may be mentioned the endocarditis, myocarditis, and pericarditis of rheumatic fever, the endocarditis of influenza and the exanthemata, the pericarditis of Bright's disease, and the fatty degeneration of the myocardium resulting from chronic alcoholism. How large a part the plasma may take in causing cardio-vascular disease is further shown by the phenomena of chronic Bright's disease.

12. Most diseases of the lungs, bronchi, and plasma. Consider the frequent involvement of these structures in the specific fevers, in gout, and Bright's disease; the frequency of bronchitis in improperly fed children; and the large part which tuberculosis plays in pulmonary and pleural affections.

Seeing, then, how dominating is the rôle of the plasma in disease, it follows that in every case which comes before him the physician should pay due regard to the condition of that fluid. Generally he will be safe in postulating some plasmic defect, and his chief concern should be to discover in what that defect consists, and having done this, to correct it. He should argue: "If I can bring about a normal condition of the plasma, I can make my patient well." Doubtless it is not possible to effect a complete cure when there is grave structural change; nevertheless it is remarkable to what extent even serious degenerative changes can be recovered from, provided a healthy state of the plasma is established. Consider, for example, how completely the patient can be cured of grave alcoholic neuritis if only he can be made to abandon his drinking habits.

The proposition "healthy plasma implies health" is in the main accurate. Exceptions may occur, for example, in such a disease as facial neuralgia resulting from a lesion of the Gasserian ganglion; but cases of this kind are comparatively rare and the physician may rest assured that he will seldom fail to cure his patients if he can establish a perfectly healthy condition of the plasma.

While assigning to the plasma this prominent rôle in disease I am not unmindful of the part played by the nervous system in pathogenesis, nor of the good which may be achieved through it. We should ever be careful to remove any reflex irritation, such as eye strain, that may be present, and to get all the good we can by mental treatment, be it through education, change of scene, suggestion, or what not. Yet even then, and when all is said and done, it will be found that it is largely through the plasma that the good effect is achieved.

MEANS OF CORRECTING THE PLASMA.

In every case of disease in which we believe the plasma to be abnormal the first question to ask ourselves is: What is the nature of the defect? Does it pertain to its nutrients, hormones, enzymes, or excreta, and if so, what is its precise character? Unhappily, we can but rarely answer this question with any degree of precision, though in the correct answer to it lies the key to the diagnosis and the treatment of most non-surgical diseases. I do not propose to enter into the various methods at our disposal for discovering plasmic defects here—that would be altogether beyond the scope of these papers. I must content myself with briefly indicating the different ways of correcting them when found. They may be grouped under the following heads: (1) methods directed to the digestive system; (2) methods directed to the excretory organs; (3) methods directed to the destruction of bacteria, or the neutralisation of their products; and (4) methods directed to the correction of defects in respect of hormones and enzymes.

Methods directed to the digestive system.—In our endeavour to bring about a healthy state of the plasma we shall find that it is through the digestive system that we can generally work most effectually. This is because digestion plays a preponderating part in determining the composition of the plasma, for disorders of it lead not only to the impoverishment but (what is of much greater pathological import) to the poisoning of the plasma, and also because the digestive system, owing to its large bulk and the complexity of its functions, but still more to its wanton abuse, is very apt to be thrown out of gear; so much so, indeed, that a sound digestion is but seldom met with among the civilised, the majority of whom suffer in greater or less degree from indigestion toxæmia—a condition responsible for much ill health among us moderns. Be it remembered that sound digestion generally means sound plasma and thus sound health, while defective digestion always implies unsound plasma and consequently imperfect health. This dependence of sound health upon sound digestion has long been recognised. Among the Chinese our "How do you do?" is rendered by "How is your stomach?"

We shall the better realise the prominent part played by the digestive system in determining the composition of the plasma if we reflect that of the sum total of material agencies operating upon the organism from without—constituting, that is, its material environment—food occupies the first place; it is from the food that the tissues are built up, and it is from the food, together with oxygen, that the energy of the vital machine is derived. The conversion of this crude food into a form suitable for absorption and assimilation is a function of the first importance, one consuming a large share of the total energy expended by the organism, and requiring the constant activity of the most bulky system of organs in the body. This capacious system includes not only the liver and the pancreas, but some 30 feet of tubing furnished with many millions of glands, and it contains on an average not less than one half the total blood mass. Nor must it be forgotten that the function of the digestive glands does not end with digestion; they also furnish enzymes and hormones which, entering the blood, play a necessary part in nutrition.

Here I would point out that it is essentially through the digestive system that climate benefits health. In most diseases it may be said that the patient does best where his digestion is best. No doubt other factors come into play, especially in such affections as bronchitis and rheumatism, in which the good effect of climate is largely produced by the direct influence of the atmosphere upon the skin and mucous membrane. Nevertheless, it is essentially the digestive factor that we have to rely on in the climatic treatment of disease. It will be found, for example, that the benefit which a tuberculous child derives from a stay at Margate is in direct proportion to the improvement which takes place in the character of his motions.

It is imperative that the physician should realise how large a part the establishment of normal digestion plays in treatment. Not until he does will he be able to secure a full measure of therapeutic success, no matter with what branch of medicine he may decide to identify himself. For this reason the study of dietetics and indigestion should occupy a prominent place in the student's curriculum, and throughout the whole of his subsequent career be kept constantly in view. Nothing more forcibly shows the evils of ultra-specialism than the casual way in which these subjects are treated by many physicians. In whatever direction he specialises a physician must at least learn the best that is known of the diagnosis and treatment of digestive disorders.

Let me here cite an incident which gives point to these remarks. Fully imbued with the truth I have just sought to emphasise, a physician of my acquaintance has for some time past been devoting himself to the study of diet, and in this connexion he not long since made an examination of the jaws and teeth of that splendid collection of skulls contained in the museum of the Royal College of Surgeons. Now this greatly concerned an old friend of his who, having docketed him neurologist, declared that he was gravely jeopardising his professional success by not sticking to his neurological last, that his conduct in thus straying beyond his own proper field was strangely heterodox, not to say eccentric, for (thus ran the argument) what in the name of common sense can teeth have to do with nerves? My friend contends, not, I think, without reason, that in point of fact there is a very close connexion between the two, and he is satisfied that his excursions into the realms of dietetics and

anthropology have in no small degree enhanced his efficiency as a practical physician, and not the least so among those of his patients who suffer from nervous maladies.

Methods directed to the excretory organs.—When the blood contains poisons an attempt may be made to get rid of them by promoting excretion, and from the earliest days of medicine eliminants in the shape of purgatives, diaphoretics, diuretics, and emetics have been used for this purpose. With the exception of the first of these, however, it cannot be said that they are of much help in purifying the blood and even purgatives act rather by preventing the absorption than by promoting the elimination of poisons. Diaphoretics are of little value as blood purifiers. A "cold" can sometimes be staved off by "getting the skin to act"—e.g., by wrapping the patient up in blankets or putting him in a warm bath; and the Turkish bath is occasionally of therapeutic service, though not so useful as the natural diaphoresis provoked by exercise. In uræmia diaphoretics are practically valueless, while as for such time-honoured practices as giving ammonium acetate in febriles states, few would contend that they can have any appreciable effect in ridding the blood of poisons. Nor can it be said that diuretics are any more valuable for this purpose, except in so far as they act by stimulating a failing heart and thus removing dropsical accumulations.

And just as we cannot get much help from eliminants in relieving toxæmia, so, on the other hand, it is only exceptionally that any marked degree of toxæmia is attributable to defective elimination of normal excreta, except, perhaps, in the case of constipation. The fact is, such excreta are rapidly run out of the blood and only tend to accumulate seriously when there is grave organic disease of the heart, lungs, or kidneys. In short, toxæmia results from the absorption of poisons from without, or from the undue production of poisons within, rather than from failure in the eliminating organs; and its treatment therefore should consist rather in the prevention of such absorption and such undue formation, or in treatment calculated to neutralise the poisons present, not in attempts to promote their elimination.

Methods of coping with bacteria and their products.—We now know that the human organism has special methods of its own for striking at pathogenic bacteria and their products, methods which have been steadily evolving from the very beginning of animal life. No branch of therapeutics holds out greater promise than that which is based on these natural methods. Treatment of this kind, rendered possible by the labours of such men as Pasteur, Behring, Koch, and Wright, is eminently scientific and rational. Before their time the treatment of bacterially induced diseases was for the most part empirical. It is true that abscesses have long been treated by rational surgical means and that the treatment of typhoid fever by cautious dieting and of hyperpyrexia by the application of cold may be regarded as genuinely rational; but speaking generally, it must be conceded that, prior to the advent of the new system, the treatment of microbic diseases was essentially empirical, and very poor at that. In the case of such affections as pneumonia, diphtheria, and the exanthemata, our treatment, so far as any good has come of it, has essentially consisted, not in worrying the patient by fussy interference, but in leaving him severely alone and trusting to careful nursing. While we have been hugging ourselves with the belief that we have "pulled him through" by a specific line of treatment, it is Nature who has all the time been doing stern battle with the malignant foe. And how ineffectual and stupid our worrying applications to the diphtheric throat now seem in the light of the modern serum treatment! How pathetically puerile our finicking treatment of pneumonia (on which whole libraries of treatises have been written), when we learn that at the crisis the opsonic index of the blood leaps upwards, in token that the great strategist Nature has completed her plans for the final phagocytic onslaught, which is to annihilate the pneumococci and thus remove the essential cause of the disease!

We have still a great deal to learn on the subject of immunity. So far as our present knowledge goes the means adopted by the host for coping with bacteria would appear to fall under two heads—those adapted (1) to destroy the bacteria; and (2) to neutralise the poisons which they engender.

1. Speaking broadly, we may say that the bacteria are destroyed in one of two ways, either by the phagocytes which engulf and digest them or by means of chemical substances. These latter are of several kinds and include the lysins which actually dissolve the bacteria (as happens, for instance, in typhoid fever and cholera), and the opsonins which so affect the bacteria as to render them an easy prey to the phagocytes.

2. The bacterial poisons are neutralised by the antitoxins, substances which have been administered with great success in diphtheria, tetanus, and botulismus. These poisons, allied as they are to the foodstuffs, are capable of being linked on to the molecules of the living protoplasm, such assimilative union interfering with the normal vital activities of the cells. Now the antitoxins combine with the bacterial poisons and thus prevent the latter from entering into union with the cell protoplasm, thus giving time for the process of bacterial destruction to be carried through.

The treatment of bacterial diseases by the application of nature's own method consists for the most part in the administration of antitoxins and of substances calculated to increase the opsonic power of the blood. For this latter method we are indebted to the classic researches of Wright and Douglas. In order that this treatment may be successful the quantity of the substance administered has to be carefully regulated in relation to the opsonic index. By due attention to this particular Wright, Bulloch, and others have been able to obtain striking results in local tuberculosis, as well as in acne, furunculosis, and sycosis.

When we reflect what brilliant results have in so short a time been achieved by this method of treatment, may we not confidently anticipate a splendid future for it? Treatment by drugs, dating back though it does some thousands of years, has with a few exceptions yielded but barren results. It was hoped that great things would come from a study of their physiological action and that a reign of rational, as distinguished from empirical, drug treatment had by it been inaugurated; but, alas, such hopes have not been realised. While many useful drugs will doubtless be discovered in the future the treatment by drugs seems destined long to remain essentially empirical. At last, however, a method of treatment has been discovered which is in the truest sense of the term scientific and rational, based as it is on the very method nature herself employs.

Methods directed to the correction of defects in respect of hormones and enzymes.—Whenever disease is due to a hormonic or enzymic defect the treatment obviously consists in correcting that defect. To do this we must first discover its exact nature, and this is seldom possible in the present state of our knowledge. We know that myxœdema is due to deficient thyroid action and are able to cure the affection by the administration of thyroid extract. Certain cases of infantilism, again, are apparently due to some defect in the pancreas and can be greatly benefited, as Byrom Bramwell has shown, by means of an extract of this gland. On the other hand, though there are good reasons for concluding that Graves's disease, Addison's disease, and acromegaly are due to perverted hormonic function of definite tissues, the treatment of these diseases by the administration of an extract of the affected tissue has hitherto proved disappointing. Similarly, while evidence seems to point to the conclusion that pancreatic diabetes results from the absence from the blood of a pancreatic enzyme, no satisfactory treatment of that disease has yet been discovered. But although at present we can do but little for this (probably large) class of disorders, we may reasonably hope for greater success as our knowledge of their pathology becomes more accurate.

Conclusion.—The object of these papers has been to emphasise the great importance, from the point of view of treatment, of fixing the attention on the plasma. The whole art of healing consists in acting directly on brain and nerves (as by education, "suggestion," the removal of peripheral irritation) and in correcting a faulty plasma—neither more nor less—and we may sum it up in the aphorisms, "Tend the mind and the nerves; correct the plasma." There is no form of medical treatment but is embraced by one or other of these injunctions, and of the two the second is much the more important. Had we a Temple of Healing over one of its doorways the words, *Nervos atque mentem cura*, might fittingly be inscribed, but over the main portal in letters of gold should be placed the admonition[2]—

Corrige Plasma.

[2] It is scarcely necessary to say that it is impossible to express these aphorisms in classical Latin, which has no word either for the "nerves" or the blood "plasma."

BRITISH MEDICAL BENEVOLENT FUND.

AT the March meeting of the managing committee of this fund 22 applications for assistance were received and sums amounting to £254 voted in relief to 21 of the cases. The deaths of three annuitants were reported and vacancies so created were filled from the list of selected candidates. Mr. E. Parker Young was re-elected chairman of the committee for the ensuing year.

An abstract of the cases relieved is appended:—

Widow, aged 49 years, of L.R.C.P., L.R.C.S. Edin., who practised in London. Quite unprovided for at husband's death three years ago and is unable to obtain regular employment on account of ill-health and a deformity. No children. Relieved three times, £72. Recommended by Mrs. Coulson. Voted £14, £2 immediately and £12 in monthly instalments.

Daughter, aged 68 years, of late L.S.A., who practised in Monmouthshire. For 36 years has earned a living as governess, companion, &c., but her health is now breaking up. Recommended by Dr. Miles Miley and Mrs. Louisa Anderson. Voted £12 in 12 instalments.

M.B. Lond., aged 70 years. Has practised for 40 years but is now quite incapacitated. No income; children only just self-supporting. Recommended by Sir John Tweedy and Dr. F. T. Roberts (Vice-Presidents). Voted £20 in one sum.

Daughter, aged 66 years, of late M.R.C.S., who practised in Yorkshire. Has maintained herself as a governess for many years but is now quite broken down in health and dependent on a small weekly allowance from a charity. Recommended by Dr. Hector M. Robinson, honorary local secretary, and by Mrs. Braithwaite. Voted £12 in 12 instalments.

Widow, aged 50 years, of L.R.C.P. Irel., who practised in Cheshire. Quite unprovided for at death of husband a few months ago and has recently undergone a severe operation. Recommended by Mr. J. Taylor. Voted £12 in 12 instalments.

Daughter, aged 62 years, of late M.R.C.S., who practised for many years in London. Since mother's death has been living on a small legacy which is now exhausted. Health very feeble. Recommended by Mr. Reginald Harrison, Vice-President. Voted £12 in 12 instalments.

Daughter, aged 47 years, of late M.R.C.S., L.S.A., who practised in Essex. Is an epileptic and practically incapacitated by the results of burns. Recommended by Dr. Walter Rosser, honorary local secretary. Voted £12 in 12 instalments.

Widow, aged 48 years, of L.R.C.P. Edin., M.R.C.S. Eng., who practised in Herefordshire and whose savings were exhausted by a long illness ending in death. For several years applicant has kept a boarding house which she is now compelled to give up on account of ill-health. No income. Five children, of whom only two are able to give a little help and two are quite dependent. Relieved four times, £60. Recommended by Surgeon-Lieutenant-Colonel W. B. C. Deeble. Voted £12 in 12 instalments.

Daughter, aged 51 years, of late L.R.C.P. Edin., L.S.A., who practised in Lancashire. No income; is allowed a few shillings a week by a friend. Used to be a dressmaker but lost her situation when her firm dissolved a few years ago and since then has been unable to obtain regular employment. Relieved twice £20. Recommended by Dr. Alfred Godson. Voted £10 in 10 instalments.

Widow, aged 57 years, of L.S.A., who practised in Suffolk. Only income £8 a year. Lets lodgings but has had her rooms empty all the winter. Five children; only one able to give a little help and two still dependent. Relieved five times, £60. Recommended by Dr. W. S. A. Griffith. Voted £10 in ten instalments.

Widow, aged 62 years, of M.D., C.M. Glasg., who practised in Cheshire. No income; practically dependent upon this fund and a few shillings a week given by the Ladies' Working Guild. Relieved seven times, £84. Recommended by Miss Farquhar. Voted £10 in ten instalments.

Daughter, aged 50 years, of L.R.C.P. Edin., L.S.A., who practised in London. Used to support herself by taking boarders but for the last few years has been in very bad health and is now dependent on two sisters who have to maintain themselves. Relieved twice, £16. Recommended by Sir Anderson Critchett, Vice-President. Voted £10.

Widow, aged 57 years, of L.R.C.P., L.R.C.S. Irel., who practised in London. Applicant was well provided for at her husband's death 13 years ago but soon lost everything through a fraudulent solicitor. Endeavours to maintain herself as a companion but during the past year has undergone four operations and is now in a very feeble state of health. Relieved twice, £20. Recommended by Messrs. W. and A. Gilbey. Voted £10 in one sum.

Widow, aged 66 years, of M.R.C.S., L.S.A., who practised in Somersetshire. For 20 years after husband's death applicant maintained herself as a cook-housekeeper but her health is now broken down. Relieved once, £12. Recommended by Mr. J. Gould. Voted £12 in 12 instalments.

Daughter, aged 55 years, of late M.R.C.S., L.S.A., who practised in London and Birmingham. No income; endeavours to support herself and invalid sister by needlework. Recommended by Dr. J. E. Nevins, honorary local secretary. Voted £12 in 12 instalments.

Daughter, aged 57 years, of late M.R.C.S., who practised in Gloucestershire and was an annuitant of this fund. Is given a home in return for services but receives no salary. Relieved five times, £84. Recommended by Mr. O. H. Fowler. Voted £12 in 12 instalments.

Widow, aged 49 years, of L.R.C.P. Edin., L.S.A., who practised in Cumberland. Quite unprovided for at husband's death four years ago. Health indifferent. Five children, barely self-supporting. Relieved once, £10. Recommended by Dr. G. H. Hume. Voted £10 in two instalments.

L.R.C.P. Edin., M.R.C.S. Eng., aged 60 years, who practises in Surrey. For the last three years has been incapacitated by hemiplegia and consequently earnings average less than £1 a week. Seven children, the youngest being three years old, and only one self-supporting. Relieved four times, £27. Recommended by Deputy-Surgeon-General E. McKellar. Voted £18 in 12 instalments.

Widow, aged 63 years, of L.R.C.P. Edin., L.S.A., who practised in Glasgow. No income; allowed £10 a year by a charity. Has endeavoured to support herself for some years by taking boarders, but is obliged to give up on account of ill-health. Applicant's only daughter, a teacher, has been ill for the last four or five months, and it has been necessary to sell some of the furniture to meet unavoidable expenses. Relieved eight times, £96. Recommended by Sir Patrick Heron Watson and by Dr. Joseph Bell (honorary local secretary). Voted £12 in 12 instalments.

Widow, aged 46 years, of M.R.C.S., L.S.A., who practised in county Durham. No income; endeavours to support herself by sewing. Health indifferent; two children—a son just self-supporting and a daughter, a school girl. Relieved five times, £47. Recommended by Mr. Henry Power and by Dr. W. B. Winston. Voted £12 in 12 instalments.

Daughter, aged 51 years, of late M.R.C.S., L.S.A., who practised in London. No income; is allowed a few shillings a week by a sister; health too indifferent for regular employment but does needlework when able. Relieved nine times, £101. Recommended by Mr. W. Bramley Taylor. Voted £12 in 12 instalments.

THE SOCIAL AND PHILANTHROPIC SIDE OF A GERMAN CHEMICAL FACTORY.

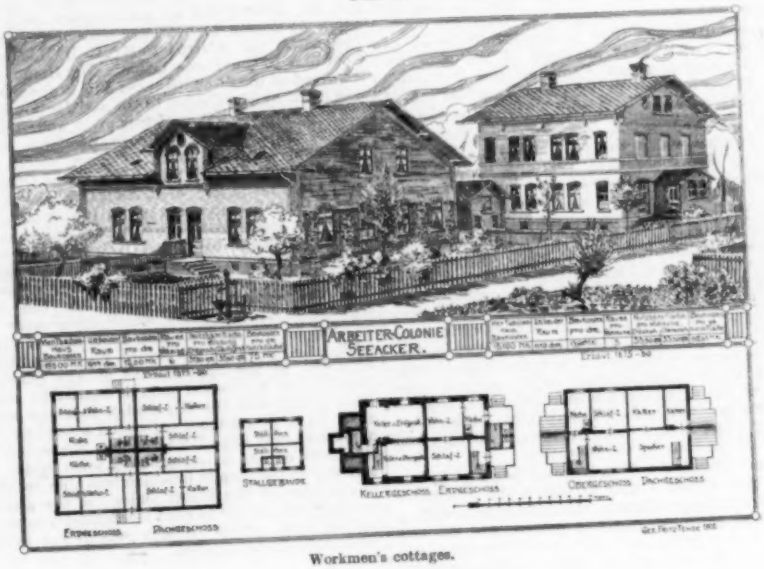
IN the social life of Germany much importance attaches to the various systems and organisations which have for their object the promotion of the welfare of the working classes. The principal ones have been made the subject of special legislation and are binding on all persons who come within the scope of their definitions, whilst others depend on voluntary effort or are the result of mutual understandings between employers and employed. The compulsory institutions of this kind are represented mainly by the State-controlled systems of insuring working people against sickness, accident, and other circumstances conducive to bodily infirmity, whilst the benefit clubs and other philanthropic schemes of several great industrial undertakings come under the second heading. Manufactures of various kinds in which chemistry plays a leading part exist in Germany on an immense scale, one of the leading businesses being that carried on at the colour works known as Die Farbwerke vorm. Meister Lucius und Brüning at Hoechst on the river Main, not far from Frankfort in South Germany. The magnitude of this company's operations may be understood from a brief statement recently issued by it showing that in 1906 the manufacturing department employed 5000 workmen, 200 foremen, 190 chemists, and 60 technological experts, whilst the trading department had a staff of 340. The State-controlled system of insurance of working people against illness, of course, operates in this factory as in every part of Germany since June, 1883, but the firm had before that date put a similar scheme in practice and the modifications required by the new law were comparatively unimportant. The letters contributed to THE LANCET by our Berlin correspondent have frequently explained that of the funds for the State-controlled insurance against illness two-thirds are collected from the workers and one-third is added by the employers. Many other means were adopted by the firm for the benefit of their employees and recently a small volume, about half of which consisted of architectural plans and elevations, was published showing what had been accomplished in this direction, arranged under the following heads:—Insurance against accident and illness (die Betriebskrankenkasse); the Emperor William and Empress Augusta Fund for invalid workmen, widows, and orphans (die Kaiser Wilhelm- und Augusta-Stiftung); the foremen's pension fund (die Aufseher-Pensionskasse); the savings bank (die Sparkasse); the general aid fund (Unterstützungsfonds); baths, various; mess-rooms (Speiseanstalten); general shop (Kaufhaus); workmen's dwellings; men's dormitories (Schlafsäle); the school of domestic economy; the maternity hospital; music, instrumental and vocal; the library; the convalescent home; the homes for pensioned workmen (Arbeiterheim); and the pension fund of the staff (Beamten-Pensionskasse). As a selection from the above it may here be sufficient to give a few words of explanation with respect to (1) sick pay and the care of patients; (2) the Emperor William and Empress Augusta fund; (3) the pension fund of the staff; (4) workmen's dwellings; and (5) the maternity hospital.

1. *Sick pay and the care of patients.*—As regards sick pay, it may be remarked that the average wages of a skilled workman are 4 marks per day and the normal sick pay is 60 per cent. of the wages, when the latter do not exceed 4 marks, but in cases of exceptional necessity or accident without contributory negligence, the firm may pay full

wages. Hospital cases are treated in the municipal hospital at Hoechst, the man's family always receiving half the sick pay in terms of the statute, but generally the full amount by order of the directors of the company. If treatment at a balneological resort is desirable, the patient is sent to Wiesbaden, Soden, Homburg, or Nauheim. A small convalescent home (Genesungsheim) has been established at Soden and arrangements have been made for sending convalescents and cases of pulmonary disease to the sanatoriums of Neuenhain and Rupertshain. In the factory there is a special building for the instant reception of cases of accident or sudden illness, and there is a resident assistant medical officer in constant attendance. The company has made arrangements with 24 medical men in Hoechst and the vicinity to attend the workmen's families for a yearly sum of 8 marks. In 1906 this insurance fund had 164,000 marks invested.

2. *The Emperor William and Empress Augusta Fund.*—On the occasion of the golden wedding of the Emperor William and Empress Augusta, celebrated on June 11th, 1879, the fund called after them was founded by Herr Meister, Dr. Lucius, and Dr. Brüning with a capital sum of about 150,000 marks, which has since been increased until in 1906 it amounted to 2,032,000 marks. The objects of the fund

FIG. 1.



Workmen's cottages.

FIG. 2.

The Maternity Hospital.

are: (1) to provide pensions for men past work, as well as for their widows and children; (2) to lend sums up to 3000 marks at 4 per cent. interest and 2 per cent. redemption for the purchase of real estate (*Immobilien*); and (3) to lend sums up to 100 marks in cases of great necessity. The members of this fund are about 2000 in number; they pay no subscriptions but must have had five years' continuous service with the company.

3. *The pension fund of the staff.*—Beamten-Pensionskasse means the pension fund of what may be called in English the salaried staff (*Beamte*) as distinguished from the wage-earners. Membership of this fund is compulsory on all of this class who are not already members of the Emperor William and Empress Augusta Fund or the foremen's pension fund. It was founded in 1884 with a capital sum of 30,000 marks and its assets in 1906 were 2,015,000 marks.

4. *Workmen's dwellings.*—The erection of workmen's dwellings was commenced in the year 1875; in 1899 they numbered 380; in 1903 there were 536; and in 1906 there were 50 for salaried officials (*Beamte*) and 700 for foremen and workmen. These dwellings, built on the company's land, remain the property of the company in all circumstances, but the company encourages and assists workmen to acquire or build residences of their own in the neighbourhood (see Fig. 1). The house to the front and left side in the picture is for four families and cost 19,800 marks to build; each family has six rooms. The other is also for four families, each having three rooms. The rent of the company's dwellings varies from 2 marks 30 pfennig per week for a house of two rooms, kitchen, cellar, outhouse, and garden, to 4 marks 20 pfennig per week for one of five rooms, kitchen, cellar, outhouse, and garden. Most of the dwellings are semi-detached (*Doppelhäuser*), but some are detached (*Einzelhäuser*); others are divided into four, and others stand in rows. Repairs and necessary renewals are done by the company.

5. *The Maternity Hospital.*—This hospital (see Fig. 2) was opened in 1900, partly with a view to relieve the workmen's households from the inconvenience of confinements taking place at home, and more especially to prevent the mothers from leaving their beds and returning to domestic duties too soon. No charge is made to the patients. If help is required in the husband's house the company pays two-thirds of the expense incurred. In the hospital there are six rooms with two beds each, three rooms with one bed each, two lying-in rooms, and three bathrooms. The hospital is under the general supervision and control of the Government district medical officer (Königlicher Kreisarzt) in Hoechst; the actual working staff is composed of a Red Cross sister from Wiesbaden, a deputy sister, and two midwives. The hospital is said to be well patronised (*vorübergehend schon voll besetzt*) by the workmen's wives, although the actual number of patients is not given.

From the above summary it will be seen that the persons employed in this factory enjoy a number of advantages unobtainable apart from a large and profitable business, the heads of which are disposed to do as much as possible for the welfare of their subordinates.

MEDICINE AND THE LAW.

An Unregistered Person practising Dentistry: the Alleged Attitude of the Home Office.

AT Cockermouth recently James Evan Jordan was convicted and fined 1*s.* at the instance of the London and Counties Medical Protection Society for using titles implying that he was registered under the Dentists Act, 1878, or was specially qualified to practise dentistry. The titles used were "D.S., U.S.A., the American Dentist," which were upon a brass door-plate, and an advertisement in the *West Cumberland Times* contained matter to the same effect. The solicitor appearing for the defendant admitted the above to be facts and also that the defendant was not registered and had no qualification to be so, but stated that he was "a member of the Rhode Island Association and that he would be properly qualified in America." The fine of 1*s.* inflicted might appear to be light but for a circumstance narrated by the defendant's solicitor which will account to some extent for the attitude of the bench and which, if accurately described in the report of his speech in the *West Cumberland Times*, must be characterised as remarkable. It had been suggested that the defendant had deceived the Cumberland county council but "the facts as regards that were these: seven or eight years ago Mr. Jordan was appointed dentist to the industrial school at Cockermouth. Some kind professional friends of his (he could not help thinking that these professional friends were the people who were really bringing them there to-day) wrote to the committee of the industrial school and informed them that Mr. Jordan was an unregistered dentist, and therefore not a fit person to hold the post of dentist to the school. The matter was referred to Mr. C. B. Hodgson, Carlisle, and from him to the Home Office. The Home Office were fully informed of the circumstances and they said that if the work was done by Mr. Jordan to the satisfaction of the committee the appointment was perfectly good and right." We should like to see copies of the correspondence alluded to before according absolute belief to every detail of a statement which amounts to this: that the Home Office would endorse the appointment, say, of a blacksmith as dentist to operate on the unhappy inmates of an industrial school, provided that the blacksmith drew teeth and otherwise attended to his patients to the satisfaction of the committee! If the statement made represents accurately the official opinion we should desire to refer the Home Office and the council in question to the whole of the legislation of the years which have gone by since the passing of the Medical Act, 1858, and of the Dentists Act, 1878. As far as we are aware, no recognition has ever been accorded to the appointment of any person to fulfil the functions of a medical man or dentist by any Act of Parliament except with the stipulation that the appointed person shall be a practitioner registered according to the law, but a mistake may have been made. We should be glad to be informed of the exact grounds upon which the defending solicitor in the case in question was able to claim the official recognition of the Home Office for the appointment of an unregistered person to practise dentistry upon the inmates of an industrial school, subject only to the test that the committee should be satisfied.

The Overlying and Accidental Burning of Children.

The Bill which has for its object the prevention of those unnecessary deaths of children which occur through their being left alone in rooms with unguarded fires, was commented on in THE LANCET of March 16th, p. 760, and about 1600 cases occur to illustrate the need for it in every year. One, however, which was investigated at an inquest at Hackney recently affords so good an instance of the kind of mother whose care for her offspring requires to be stimulated by law that it is worth referring to. The deceased was a child, aged three years, and his mother in giving evidence said that she went out shopping leaving him with another child, aged two years, in the back kitchen. There was an unguarded fire in the front room and he appears to have gone in there and set his clothing alight, with the result that he died from the consequent burns. "He was up to everything and she (his mother) had had to beat him hundreds of time." A mother whose only idea of training and protecting her child was to beat him can hardly complain if her management of her family is interfered with to some extent by law, and if she is compelled to purchase a fireguard the fact that she can afford to rent two rooms suggests that the purchase of such an article of a cheap but effective kind might be within her powers. Had the Bill referred to become law the mother in the case described might have been convicted of manslaughter.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8544 births and 5156 deaths were registered during the week ending March 23rd. The annual rate of mortality, which had been equal to 18·4, 18·2, and 17·8 per 1000 in the three preceding weeks, further declined to 16·8 in the week under notice. During the first 12 weeks of the current quarter the death-rate in these towns averaged 19·1 per 1000, the rate during the same period in London being 19·3. The lowest death-rates in the 76 towns during the week were 9·1 in Willesden, 9·8 in Burton-on-Trent, 9·9 in Newcastle-on-Tyne, and 10·3 in

Handsworth; the rates in the other towns ranged upwards to 25·5 in Hastings, 25·9 in St. Helens, 27·7 in Middlesbrough, and 29·4 in West Bromwich. The 5156 deaths in the 76 towns showed a further decline of 320 from the numbers returned in recent weeks, and included 469 which were referred to the principal epidemic diseases, against 470 and 465 in the two preceding weeks; of these, 182 resulted from measles, 114 from whooping-cough, 59 from diphtheria, 49 from diarrhœa, 39 from scarlet fever, 26 from "fever" (principally enteric), and not one from small-pox. The deaths from these epidemic diseases were equal to an annual rate of 1·5 per 1000 in the 76 towns, the rate from the same diseases being 1·1 in London. No death from any of these epidemic diseases was registered in Norwich, Plymouth, Southampton, Swansea, or in 11 other of the 76 towns; the annual rate therefrom, however, ranged upwards to 3·9 in Smethwick, 4·4 in Birkenhead, 7·3 in St. Helens, and 8·3 in West Bromwich. The 182 fatal cases of measles showed a further decline of 17 from the numbers returned in recent weeks, but caused an annual rate of 3·1 in Smethwick, 3·4 in East Ham, 3·5 in Birkenhead, 6·8 in St. Helens and in West Bromwich. The 114 deaths from whooping-cough were equal to the number in the previous week, the highest annual rates therefrom being 1·9 in Tynemouth, 2·1 in Willesden, and 3·1 in East Ham. The 59 deaths referred to diphtheria also showed a further slight decline, but were proportionally most excessive in Walthamstow, Halifax, and West Bromwich. Neither scarlet fever nor "fever" showed marked prevalence in any of the 76 towns. Diarrhœa caused the greatest fatality in Devonport and Burnley. No case of small-pox has been under treatment in the Metropolitan Asylums Hospitals since the end of June last. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had steadily declined in the 12 preceding weeks from 3846 to 2826, further fell to 2734 in the week under notice; 312 new cases of this disease were admitted to these hospitals during the week, against 306 and 327 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 432, 405, and 403 in the three preceding weeks, further declined to 353 in the week under notice, but exceeded the corrected average number in the corresponding week of the last five years by 15. The 22 deaths referred to influenza in London were four below the corrected average. The causes of 56, or 1·1 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Sheffield, Bristol, West Ham, Newcastle-on-Tyne, and in 51 other of the 76 towns; the proportion of uncertified deaths, however, again showed a marked excess in Birmingham, Liverpool, Preston, Sunderland, and South Shields.

In 76 of the largest English towns 8117 births and 5450 deaths were registered during the week ending March 30th. The annual rate of mortality, which had been equal to 17·8 and 16·8 per 1000 in the two preceding weeks, rose again to 17·7 per 1000 during the week under notice. During the past quarter the death-rate in these towns has averaged 19·0 per 1000; the rate in London during the same period being 19·2. The lowest death-rates last week in the 76 towns were 8·0 in Willesden, 8·4 in Reading, 9·0 in King's Norton, 9·3 in Hastings, 10·5 in York, and 10·8 in Derby; in the other towns the rates ranged upwards to 24·6 in Swansea, 25·6 in Handley, 26·2 in Bolton, 27·1 in St. Helens, and 29·5 in Birkenhead. The 5450 deaths in the 76 towns showed an increase of 294 over the number in the preceding week, and included 559 which were referred to the principal epidemic diseases, against 465 and 469 in the two preceding weeks; of these, 233 resulted from measles, 175 from whooping-cough, 61 from diphtheria, 37 from diarrhœa, 33 from scarlet fever, 20 from "fever" (principally enteric), and none from small-pox. The deaths from these epidemic diseases were equal to an annual rate of 1·8 per 1000 in the 76 towns; the rate from the same diseases being 1·9 per 1000 in London. No death from any of these epidemic diseases was registered in Leicester, Burnley, Huddersfield, or in five other of the 76 towns; the annual rates ranged upwards to 5·5 in West Hartlepool, 5·7 in East Ham, 6·2 in St. Helens, and 11·0 in Birkenhead. The 233 fatal cases of measles showed a marked increase upon the number in the preceding week, and caused an annual death-rate of 3·8 in East Ham, 4·5 in West Bromwich, 5·6 in St. Helens, and 8·8 in Birkenhead. The 175 deaths from whooping-cough also showed an increase, the highest annual rates last week being 1·7 in Tottenham, in Leyton, and in Walthamstow, and 3·2 in Swansea. The 61 deaths from diphtheria were slightly in excess of the number in the preceding week, the greatest proportional mortality from this disease being recorded in Aston Manor, Coventry, and Wigan. The deaths from scarlet fever, from enteric fever, and from diarrhœa were below the average numbers in recent weeks, and were not excessive in any of the 76 towns. No case of small-pox has been under treatment in the Metropolitan Asylums Hospitals since June last. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had continuously declined in the 13 preceding weeks from 3846 to 2734, had further fallen to 2657 at the end of last week; 330 new cases of this disease were admitted to these hospitals during the week, against 327 and 312 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which had been 405, 403, and 353 in the three preceding weeks, were 354 during the week under notice, and were 31 above the corrected average number in the corresponding week of the five previous years. The 24 deaths from influenza in London were two above the corrected average. The causes of 43, or 0·8 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, West Ham, Portsmouth, Bristol, Leicester, Nottingham, Salford, Bradford, Newcastle-on-Tyne, and in 47 other of the 76 towns; the proportion of uncertified deaths, however, showed a marked excess in Liverpool, Birmingham, Sheffield, West Bromwich, Coventry, Warrington, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6 and 20·5 per 1000 in the two preceding weeks, rose again to 20·6 in the week ending March 23rd, and exceeded the mean rate in the 76 English towns by 3·8. The rates in the eight Scotch towns ranged from 14·9 and 16·5 in Aberdeen and Perth, to 20·1 in Dundee and 24·1 in Glasgow. The 715 deaths in the eight towns showed an increase of three upon the number in the previous week, and included 102 which were referred to the principal epidemic diseases, against 112 and 100 in the two preceding weeks. These 102 deaths were equal to an annual rate of 2·9 per 1000, which exceeded by 1·4 the rate from the same diseases in the 76 English towns; they included 48 which were referred to "fever," 33 to whooping-cough, 11 to diarrhœa, six to diphtheria, four to measles, and not one to small-pox or scarlet fever. The deaths referred to "fever," which had been 52 and 43 in the two previous weeks, rose again to 48 during the week and included 38 in Glasgow, five in Edinburgh, three in Leith, and two in Paisley; 33 of the 38 deaths from "fever" in Glasgow, four of the five in Edinburgh, and all those recorded in Leith and Paisley were certified as cerebro-spinal meningitis. The 33 fatal cases of whooping-cough corresponded with the number in the previous week, and included 30 in Glasgow and two in Edinburgh. Of the 11 deaths attributed to diarrhœa, three occurred in Edinburgh and two each in Glasgow, Aberdeen, and Leith. Four of the six fatal cases of diphtheria were returned in Glasgow; and measles caused two deaths both in Glasgow and in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 149 and 155 in the two preceding weeks, declined to 147 in the week under notice, but exceeded the number in the corresponding week of last year by 23. The causes of 18, or 2·5 per cent., of the deaths registered during the week in the eight towns were not certified or not stated; the percentage of uncertified deaths in the 76 English towns during the same week did not exceed 1·1.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·5 and 20·6 per 1000 in the two preceding weeks, declined again to 20·3 in the week ending March 30th, but exceeded by 2·6 per 1000 the mean rate in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·6 in Leith and 16·1 in Aberdeen to 21·2 in Paisley and in Greenock, and 22·1 in Glasgow. The 706 deaths in the eight towns showed a decrease of nine from the number in the preceding week,

and included 107 which were referred to the principal epidemic diseases, against 100 and 102 in the two preceding weeks. These 107 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·3 per 1000 the rate from the principal epidemic diseases in the 76 English towns; they included 39 which were referred to "fever," 34 to whooping-cough, 19 to diarrhœa, seven to measles, six to diphtheria, and two to scarlet fever, but not any to small-pox. The deaths referred to "fever," which had been 43 and 48 in the two preceding weeks, declined again to 39 last week, and included 31 in Glasgow, four in Edinburgh, three in Paisley, and one in Leith; all these 39 deaths, with the exception of one in Paisley, were certified as cerebro-spinal meningitis. The deaths from whooping-cough, which had been 33 in each of the two preceding weeks, rose last week to 34, of which 26 occurred in Glasgow, three in Edinburgh, and two in Aberdeen. The fatal cases of diarrhœa, which had been 13 and 11 in the two preceding weeks, rose again to 19 last week, and included nine in Glasgow, three in Edinburgh, three in Aberdeen, and two in Paisley. Of the seven deaths from measles, four occurred in Glasgow and two in Edinburgh; and three of the six deaths from diphtheria were registered in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 155 and 147 in the two preceding weeks, declined to 123 during the week under notice but were 20 in excess of the number in the corresponding week of last year. The causes of 21, or 3 per cent., of the deaths registered during the week in the eight towns were not certified or not stated; the percentage of uncertified deaths in the 76 English towns during the same week did not exceed 0·8.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 28·6, 25·2, and 24·9 per 1000 in the three preceding weeks, further declined to 22·3 in the week ending March 23rd. During the first 12 weeks of the current quarter the death-rate in the city averaged 27·5 per 1000; the mean rate during the same period did not exceed 19·3 in London and 19·7 in Edinburgh. The 167 deaths of Dublin residents registered during the week under notice showed a further decline of 20 from the numbers in recent weeks, and included 12 which were referred to the principal epidemic diseases, against ten and 16 in the two previous weeks. These 12 deaths were equal to an annual rate of 1·6 per 1000, and included seven from whooping-cough, three from measles, one each from diphtheria and diarrhœa and not one either from scarlet fever, "fever," or small-pox. The fatal cases of whooping-cough exceeded the number in the previous week, while those of measles and diarrhœa showed a decline. Two deaths were also referred to cerebro-spinal fever. The deaths in the city included 27 of infants under one year of age and 35 of persons aged upwards of 60 years, showing a marked decline from the numbers in the previous week. Four deaths from violence and five inquest cases were registered; and 67, or 40·1 per cent., of the deaths registered during the week occurred in public institutions. The causes of all but one of the deaths in the city were duly certified; the percentage of uncertified deaths in the week under notice was 3·5 in Edinburgh and 0·1 in London. The 167 deaths registered in Belfast during the week ending March 23rd included 14 certified as due to cerebro-spinal meningitis or cerebro-spinal fever.

The annual death-rate in Dublin, which had been equal to 25·2, 24·9, and 22·3 per 1000 in the three preceding weeks, rose again to 24·3 per 1000 in the week ending March 30th. During the past quarter the death-rate has averaged 27·2 per 1000, the mean rate during the same period being 19·2 in London and 19·6 in Edinburgh. The 182 deaths of Dublin residents registered during the week under notice showed an increase of 15 over the number in the preceding week; and included 12 which were referred to the principal epidemic diseases, against 16 and 12 in the two preceding weeks. These 12 deaths were equal to an annual rate of 1·6 per 1000, and included four from measles, four from whooping-cough, two from "fever," and one each from diphtheria and diarrhœa, but not any from either small-pox or scarlet fever. The fatal cases of measles slightly exceeded the number in the previous week, while those of whooping-cough showed a decrease. The deaths from all causes included 26 of children under one year of age and 44 of persons aged upwards of 60 years, the latter being nine in excess of the corresponding number in the preceding week. Five deaths from violence and two inquest cases were registered; and 70, or 38·5 per cent., of the deaths registered during the week occurred in public institutions. The causes of three of the deaths were not certified; in London no uncertified death was registered last week and in Edinburgh only one.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: W. M. Craig to Haslar Hospital; G. A. Waters to the *Excellent*, for the *Revenge*; F. A. Brice to the *President*, for three months' course at West London Hospital; F. J. Lilly to the *President*, for three months' course at Greenwich Hospital; and D'Arcy Harvey to the *Argonaut*, on recommissioning. Surgeons: G. M. O. Richards to Haslar Hospital, P. T. Sutcliffe to the *Exmouth*, and W. P. Hingston to the *Vivid*.

ROYAL ARMY MEDICAL CORPS.

Captain Frederick F. Carroll is seconded for service with the Egyptian army (dated March 19th, 1907).

ROYAL ARMY MEDICAL CORPS IN INDIA.

Lieutenant-Colonel J. R. Forrest is appointed to command the Station Hospital at Delhi, vice Major Tibbits transferred. Major J. Hennessy to command the Station Hospital at Poonamallee and Major N. Tyacke to the command of the Station Hospital at Dalhousie. Captain L. W. Harrison is appointed to the medical charge of the Headquarters Staff and Establishments, Northern Command, Murree, vice Captain R. S. H. Fuhr, D.S.O. Lieutenant J. Campbell is appointed to the charge of the 8th Divisional Laboratory. Captain E. B. Knox sailed for England on duty with troops by the hospital ship *Plassy* on March 6th. Captain G. H. J. Brown has passed in lower standard Burmese. Leave out of India to the following officers has been granted: Lieutenant-Colonel F. W. G. Hall, from May 28th to Dec. 28th; Captain E. B. Knox is granted eight months combined leave out of India from March 6th; Major F. McDowall is granted seven months from April 1st to Oct. 31st. Lieutenant-Colonel R. E. Molesworth has been permitted to retire from the service from March 6th. Major M. Boyle has been transferred from Meerut to Bareilly for duty in the station hospital.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Sussex Regiment: Alfred Heathcote Copeman to be Surgeon-Lieutenant (dated Feb. 23rd, 1907). 2nd Volunteer Battalion the Royal Sussex Regiment: Surgeon-Captain John Elsdale Molson, from the 2nd Volunteer Battalion the Essex Regiment, to be Surgeon-Captain (dated Feb. 12th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Sussex and Kent Bearer Company: Lieutenant-Colonel J. Turton (Brigade-Surgeon Lieutenant-Colonel, Senior Medical Officer, Sussex and Kent Volunteer Infantry Brigade) is granted the honorary rank of Colonel (dated Feb. 18th, 1907).

THE MILITIA SYSTEM.

Lord Wemyss sends us a letter protesting against Mr. Haldane's suggested alterations in our military system which Lord Wemyss thinks has satisfied all Statesmen and soldiers in the past, and is so well suited to our insular position. To substitute a so-called "Territorial Army," the letter continues, resting on nothing but hope, patriotic self-sacrifice, and speculation, will not be acquiesced in by responsible, sane men who will insist on the Militia being left out of the War Minister's scheme. Our existing military system, Lord Wemyss goes on to say, if put in force, will fully satisfy all our military requirements without increase of cost.

The War Office has approved of the payment of bounties to Militia-men of the Royal Army Medical Corps, of two classes: (*a*) to those who attend the prescribed training, to be termed training bounty; (*b*) to those who do not attend the training, to be termed non-training bounty.

DEATHS IN THE SERVICES.

Surgeon-Colonel John McConaghey, I.M.S. (retired), at

his residence, Exmouth (Devon), on March 25th, in his fifty-eighth year. The deceased officer, who graduated M.D., M.Ch. of the Royal University of Ireland in 1871, entered the Bengal department of the Indian Medical Service in March, 1872, and became surgeon-colonel in June, 1902. He retired in 1905 and took up his residence at Exmouth.

Deputy Inspector-General W. J. Baird, R.N. (retired), recently, at Brighton. He was assistant surgeon of the *Leander* in the Black Sea throughout the Crimean war and was "lent" to various ships during the cholera epidemic of 1854; he landed to attend to the wounded after the battle of Alma and served with the Naval Brigades at Eupatoria and before Sebastopol (Crimean and Turkish medal, Sebastopol clasp); served with the 1st Battalion of Royal Marines during the Chinese war 1857-59 and was acting surgeon of the *Assistance* while used as a hospital ship off Canton; present at the attack of the Bravas near the White Blond Mountains, and at the capture of the bridge and village of Sheek-lsing; was landed in medical charge of Marines during the attack on the Peiho forts, specially mentioned in despatches (China medal, Canton clasp); surgeon of the *Spiteful* in the West Indies during the epidemic of yellow fever, 1861; served in the *Druid* on the West Coast of Africa throughout the Ashantee war, 1873-74, was present at the destruction of Elmna and several villages on the coast, and medical officer of health afloat at Cape Coast Castle (Ashantee medal).

ARMY SANITATION.

A correspondent writing in the *Times* of April 3rd says: "The statistics of mortality due to disease in the South African war, when compared with the losses more recently suffered by the Japanese from the same causes, demonstrated only too clearly that in the matter of sanitation there was in the British army considerable room for improvement. It is, therefore, satisfactory to find that the matter has been thoroughly taken in hand by the Army Council and a series of regulations issued, which should bear good fruit in our future campaigns. Under the direction of authority, a manual of sanitation has been prepared the contents of which the combatant officer will not only have to be acquainted with, but will have to submit to have his knowledge therein tested by examination. ..... On the outbreak of war there will be formed for service in the field a committee, consisting of a combatant field officer as president, with a field officer R.E. and a field officer R.A.M.C. as members. This committee will act under the orders of the general officer commanding-in-chief, and its duties will be to ascertain that sanitary appliances and materials of all kinds required for the army are forthcoming, and that an adequate reserve is maintained."

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The March number of this journal is a very good one. We would particularly call attention to the very interesting paper on Recent Researches into the Epidemiology of Malta Fever, by Colonel David Bruce, C.B., F.R.S., which was read before the Epidemiological Society on Feb. 15th last. It is a brief and, at the same time, exhaustive and practical exposition of all that is known in regard to this disease.

Revised regulations regarding the Indian Medical Service have now been issued.

Correspondence.

"Audi alteram partem."

THE WATER-SUPPLY OF CAIRO.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter in THE LANCET of Jan. 26th, p. 251, over the signature of Mr. John M. Robertson, M.P., which deals in part with the question of the Cairo water-supply and more particularly as regards the quality of the water supplied by the company to the town of Cairo. I much regret I had not the opportunity of meeting the writer during his short visit to this country, as I should have been only too happy to have given him all the information in my power as regards the Cairo water-supply and so have saved him the annoyance of finding he had been misinformed by someone who evidently has no knowledge of the existing state of affairs. The remarks he makes would, to a great extent, have been correct three or four years ago, at which time the town was supplied with water taken direct from the Nile and filtered through sand filters, when the water was of poor quality as regards purity, especially during low Nile, and as regards clearness during the high Nile.

In 1903 the question of improving the supply was seriously taken in hand and experiments were made with a view to finding a pure source. The borings made by the water company showed that there existed an underground stream, and the tests which were made showed that underground water taken from deep bore holes was of great purity, both chemically and bacteriologically, and since then the whole supply has been remodelled and a completely new pumping station has been erected taking the water from deep bore wells, about 200 feet deep. The water is of exceptional purity and is always clear as crystal on its arrival at the surface. The whole of Cairo's drinking and domestic supply is now pumped from these wells, and Nile water is only used for road-watering and gardens. Even for this purpose the Nile water-supply will, however, be entirely superseded by well water in the course of about 12 months from date, when all the wells are completed. In his letter Mr. Robertson says that in the police schools the drinking water is very carefully filtered. This is possibly the case, but it is quite unnecessary and, as a matter of fact, I understand that the Government officials and experts contend that the water taken direct from the company's mains is so pure that it is only liable to be deteriorated by manipulation, such as filtering or boiling, unless great care is taken as to the cleaning of the vessels employed. Again, not only is the drinking water of the town not "officially recognised to be bad," but the water now being supplied has been officially accepted by the Government as of pure and excellent quality for domestic purposes. This can easily be proved by applying to the authorities. Again, it is not discoloured at high Nile, but is of the same clearness all the year round.

As you will see from the above statements, which can be verified by application to the local authorities, his letter gives quite a false impression of the existing state of the Cairo water-supply, and in fairness to my company I shall be much obliged if you will publish this letter in THE LANCET at the first opportunity.

I am, Sirs, yours faithfully,

ASTLEY P. FRIEND,
Cairo, March 21st, 1907. Manager, Cairo Water Company.

GRADUATED LABOUR IN SANATORIUMS.

To the Editors of THE LANCET.

SIRS,—Naturally enough, when one reads remarks by Dr. T. D. Lister and Mr. C. H. Garland and Dr. M. S. Paterson,[1] one pays respectful attention to the conclusions come to by those well qualified to judge as to what really is the best thing to be done for the working-class consumptive. Recent work has been useful especially in clearing the subject of after-treatment of those preconceptions which had led to what Sir R. Douglas Powell calls "airy and unpractical advice." But one sees in one or two appreciations of such inquiries a certain note of enthusiasm as to the heavy nature of the work which may be expected of public sanatorium patients, and with such beneficial results, according to these authors, that it seems a natural inference that the better off should surely be given a chance of participation as well. For it is, of course, a fact that at nearly all private sanatoriums anything in the nature of hard exercise is forbidden even for the most robust patients.

Now let me from experience gained by residence in two public and four private sanatoriums try to point out a reason or two why it is likely that the teaching of the latter as to exercise is the correct one so far as absolute therapeutic value goes. I think that they should give pause to the enthusiasms just noticed. In the first place, if the private patient is forbidden violent exercise it is with no idea of pleasing him, for the average upper middle-class patient, whether male or female, often wishes nothing so much as to continue some favourite game or sport. When he leaves—and his state then if his condition has allowed walking exercise is by no means "soft"—he often breaks rules as to exercise laid down for him and, as many sanatorium physicians seem to think, has to return as a more or less direct consequence of this, and I cannot

[1] THE LANCET, March 9th (p. 677) and 23rd (p. 836), 1907.

suppose that the suddenness of indulgence in unaccustomed exercise is the main factor in the breakdown. One has seen made the most cautious and persevering attempts to resume some favourite exercise with quite unsatisfactory results. Then there is this point, that the private sanatorium physician has a much harder therapeutic task and gains thereby a more detailed insight into treatment. If a man comes to one because he is not getting on as quickly as he would like (and the laity have remarkably exacting views as to this) in a hut in his grounds, it is very obviously more difficult to improve his condition than it is that of an artisan from the town. Couple with this the fact that it is very hard to judge of the effect of the treatment in phthisis, especially in improving cases. If a patient gets on well while digging unbroken ground it by no means follows that he would not do better with gentle uphill walking. Let us not forget the natural intermissions of the disease or the fact that the test of an alternation of current types of treatment is one which is never deliberately applied and which only occurs occasionally and by chance. The few instances of it which I have seen have not left me with much opinion of the absolute therapeutic value of the plan of working the consumptive sound. And as to the advisability of treating patients to the best advantage, let German statistics as to final results speak. Finally, the traditions of treatment are at private sanatoriums much longer; their physicians have fewer patients and can study them more closely, the patients themselves stop longer, and return (if they need to) much more frequently for further treatment. Opportunities of observation are therefore, on the whole, much greater, for two cases observed thoroughly and at length teach one more than a rapid succession of 20. If, then, with these advantages for judging private sanatoriums pronounce against hard exercise, is it wise to be enthusiastic over physical feats by consumptives, especially if one remember the poor physique they often show?

Now, in saying all this one does not wish in the least to ram one's conclusions down anyone's throat. It is easy enough to see that under our present unfortunate social conditions the great thing is to procure the main essentials of the treatment for as many as possible of the consumptive proletariat and to prolong the working life of each as much as one can. In presence of these two objects, especially of the latter, minor therapeutic details must go by the board. But in the hard task of striking the balance of considerations one will not be at all helped (to avoid the serious errors which beset one) by the state of lay opinion likely to be promoted by sentimental preconceptions which look on the treatment of early phthisis in the working classes as muscle culture plus straight talks against loafing. If such enthusiasms be not checked, sanatorium treatment of the working man may come for a time to suffer somewhat as (with due apologies to Professor Armstrong and the Heuristic method) primary education did at Dotheboys Hall.

I am, Sirs, yours faithfully,

W. C. RIVERS.

Crossley Sanatorium, Frodsham, March 23rd, 1907.

IDIOPATHIC (MICROBIC) CYANOSIS.

To the Editors of THE LANCET.

SIRS,—Under ordinary circumstances the letter published in your issue of March 9th of Dr. Samuel West and Dr. T. Wood Clarke would not call for any notice, but as my friend Dr. Carstairs C. Douglas has made a real addition to our knowledge it would be unjust to him to pass by any attempt to belittle its value without protest. Put briefly, as the result of a long series of chemical and bacteriological observations on the patient whose case was fully described in our paper, Dr. Douglas found that the blood revealed the presence of methæmoglobin; that the blood, saliva, and fæces contained nitrites; that the fæces had no power of converting ox blood into methæmoglobin; that these facts raised the suspicion of a hæmatogenous formation of methæmoglobin; and that very careful investigations proved that the blood contained the bacillus coli or a very closely allied organism. With these results, as far as one case can go, we are absolutely satisfied. One positive observation is of more value than countless negative statements. We, desire, however, to obtain further opportunities of research in other patients. In this hope we made the statement: "It seems to us very desirable that these observations should not be taken as final and if opportunity presents itself they will be repeated, especially those of a bacteriological nature." Surely Dr. West and Dr. Clarke are able to appreciate the difference between a desire for further observations on a more extended series of cases and a doubt of the correctness of our results! In making this remark there is no intention to impugn the good faith of your correspondents. They simply appear to be victims of a tendency towards "terminological inexactitude." That this is probably the state of their minds may be gathered from the fact that in spite of their perusal of the Dutch literature on the subject, in which, with an imitation which may be regarded as the sincerest flattery, they have faithfully followed in our footsteps, they nevertheless make the statement that we suggest the term "microbic cyanosis" to take the place of methæmoglobinæmia. We disclaim this intention inasmuch as methæmoglobinæmia is only one form of that complex known as cyanosis—true and false. The term idiopathic cyanosis, it may be added, is bad, not only because the word idiopathic is archaic, but because it has been applied to the polycythæmia with splenomegaly, which has recently been so thoroughly discussed.

In conclusion, let me add that although the remarks made by Dr. West and Dr. Clarke on the careful observations of Dr. Douglas certainly require correction, it was a matter of interest to me that a case of sulph-hæmoglobinæmia had been observed in this country. It is to be hoped that the authors will have further opportunities of investigating the condition so that they may be able t add something to the observations of Dr. A. A. Hijmans van der Bergh and Mejuvrow Gatterink.

I am, Sirs, yours faithfully,

Edinburgh, March 26th, 1907. G. A. GIBSON.

*** We have retained the term "idiopathic" in the heading because former letters on the subject have borne this title—ED. L.

THE USE OF ALCOHOLIC BEVERAGES.

To the Editors of THE LANCET.

SIRS,—It is difficult to fathom the objects of the pronunciamiento on the alcohol question, which appears in your columns under this title, signed by 16 eminent members of the medical profession. It may be that they consider themselves the oracles of the medical profession whose opinions should be received with unreasoning credulity by their brethren. It may be very gratifying to each of them to say, "I am Sir Oracle, and, when I ope my lips, let no dog bark." On the other hand, it may be that they just wish to let us and the public know that they are still alive and have not succumbed to the baneful influence of alcohol. Whatever be the motive force I should like to remind them that we are now in the twentieth century and oracular statements are of no value whatever. If their "statement represents the opinion of the leading clinical teachers as well as of the great majority of medical practitioners," then the necessity for their manifesto does not exist and it becomes a mere blatant advertisement. If, on the other hand, it be their zeal for the public weal which forces them into print, surely it is their duty to let the medical profession and the public know the reasons for the faith which is in them. If they have got one scintilla of evidence in support of their statements by all means let us have it. I am pleased to say that I know the majority of the signatories (I have nothing to say against their temperance), and I know most of their writings, but I do not know one of them who has ever done any experimental work of any value either on the use or abuse of alcohol. It is true that Mr. Jonathan Hutchinson has shown that it is an excellent mouth wash in cases of operation on the tongue, but he did not produce any comparative evidence as to whether it was better or worse than many other antiseptic mouth washes.

"In many cases it may be truly described as life-preserving, owing to its power to sustain cardiac and nervous energy, while protecting the wasting nitrogenous tissues." Surely we are here on safe ground. I can scarcely think that 16 eminent men would make such a statement unless they knew what they were talking about. I have written on Alcoholic Asthenia and on the Therapeutic Uses of Alcohol, and I am extremely anxious to get reliable information as to its power to sustain cardiac and nervous energy. It won't do to tell me that they have seen severe cases of typhoid fever or pneumonia cured by brandy, because many

such cases get well in spite of treatment. I want some experimental evidence to prove this supposed tonic effect on the heart and nervous system. Among the signatories are two pharmacologists and one physiologist, and they ought to be able to settle this vexed question; for one of them it ought to be as simple to settle the physiological action of alcohol as of adrenalin.

I take a little alcohol myself when I have nothing better to do, because I like it, and I prescribe it as a sedative, an antispasmodic, and to paralyse the vaso-motor system, much in the same way as I order nitroglycerine. As a matter of fact, I have had two glasses of champagne while writing this letter in order to mollify my opinion of this pernicious manifesto which I candidly think savours strongly—not of champagne but—of impertinence in presuming to dictate to the medical profession as to the value of alcohol. To-day some shrewd business men asked, How many cases of Scotch whisky did this manifesto represent? I resented the suggestion, but the signatories have only got themselves to thank if the public put a commercial value on their document. I am, Sirs, yours faithfully,

Liverpool, March 30th, 1907. JAMES BARR.

To the Editors of THE LANCET.

SIRS,—The manifesto on the subject of alcohol published in your columns is gratifying in one sense, because it seems to show that temperance views are becoming so prevalent that a counterblast is thought to be necessary. But it is difficult to imagine what good it will do, or why medical men should thus champion the liquor interest. The first part of the statement is not a matter of much concern to the temperance party. It refers exclusively to the use of alcohol as a remedy in disease. Now, alcohol may be all that they say it is, and a great deal more, and yet be most undesirable as a daily beverage. In fact, the more powerful it is as a drug the more it should be avoided as an article of diet. On the other hand, the less one is accustomed to it the greater effect it will have when (if ever) it is required.

Those who have had the desire, the courage, and the opportunity to put the non-alcoholic treatment of disease to a sufficient test have, without known exception, been astonished at the success they have experienced. The results at the London Temperance Hospital, showing a mortality lower than that of most other general hospitals, would be impossible if alcohol were so necessary as the manifesto seems to imply. We maintain that whatever benefit can be derived from alcohol can be obtained by other methods or other drugs without the disadvantages which often accompany its use. Such a powerful drug as they allege it to be must necessarily be powerful for evil in certain cases, if for good in others. It has probably destroyed far more lives than it has saved. But if it is to be used as a drug it should be dispensed as such, in a pure form, in an exact dose for a definite time, and, if possible, without the patient's knowledge. Given thus it would do far less harm than it does now as usually prescribed, and temperance reformers would no more object to it than they do to the medicinal use of opium or arsenic.

But, leaving this side of the question, which is really a matter for medical discussion only, there is very little to worry about. We are only favoured with a statement that these gentlemen believe "that the universal belief of civilised mankind that the moderate use of alcoholic beverages is for adults usually beneficial is amply justified." As a matter of fact this belief is not universal, since millions believe alcohol to be injurious. Again, the belief of other millions that it is beneficial does not prove it to be so. For the great majority of those who take it take a good deal more than these gentlemen would admit to be "a moderate quantity" and yet believe that it does them good. They do not tell us what is the limit of moderate use. "Belief of benefit" would justify opium smoking, opium eating, and other harmful indulgences, with regard to which we may presume that all these gentlemen are total abstainers. These habits can only be justified by their results, and more evidence can be produced of the evil results of acquiring the alcohol habit (which is almost without exception "moderate" at first) than any newspaper would care to print. The matter has really been settled by the experience of those life assurance societies which insure abstainers and non-abstainers in separate departments. All such have found that the use of alcohol shortens the average duration of life. In the largest of these offices the experience covers about 40 years, has been of the same character every year, and shows that of every 100 expected deaths of non-abstainers about 97 occur, while of every 100 of abstainers only 72 occur. If it had been the other way round we might have listened respectfully to the dicta of these leaders of the medical profession, but in the circumstances we think otherwise and consider ourselves amply justified in avoiding so potent a cause of disease and death. One wonders where the benefit comes in, for wherever any fair comparison of large bodies of men has been possible, whether as to health, work, endurance, or vitality, the advantage has been on the side of the abstainer. The evidence of the feelings is no criterion whatever, as the judgment is perverted. Any nation will be healthier, wealthier, and wiser by total abstinence and prohibition. Not that all will be on the same level, any more than in the case of individuals, because there are many other things affecting the result. At any rate, no sane doctor will assert that alcohol is necessary for healthy persons; being superfluous such a drug is not likely to be harmless.—I am, Sirs, yours faithfully,

J. J. RIDGE,
Honorary Secretary, British Medical Temperance Association.

Enfield, March 30th, 1907.

To the Editors of THE LANCET.

SIRS,—It is with much gratification that I have read the courageous manifesto on the above subject in your last issue—courageous, because the profession appears to have been hypnotised into silence of late years by the temperance enthusiasts and to have lacked the courage to express publicly its views on the alcohol question. Very properly you point out the enormous importance to the profession and public alike of this epoch-making confession of faith on the part of a distinguished and representative body of scientists. The teetotal enthusiasts have held the field too long unchallenged by the acknowledged *leaders* of the profession and we may well hope that at last prejudice will have to give place to dispassionate and unprejudiced inquiry into the real facts of the case. Possibly under the influence of this sadly needed stimulant the profession will now shake off its lethargy and take some steps to repair the damage that it must always sustain in the eyes of the public when it leaves the apparent settlement of subjects of so great importance as that under consideration to the generally more pushful and enthusiastic minority. I am, Sirs, yours faithfully,

A. H. COPEMAN, M.D. Dub., &c.

Brighton, March 30th, 1907.

To the Editors of THE LANCET.

SIRS,—Everyone must recognise the high standing in their profession of the gentlemen who sign the manifesto in favour of alcohol. The question of its therapeutic value is after all one which must be decided by medical men themselves, and doubtless there is a large number of the profession who hold that alcohol has such a value. The manifesto is so loosely worded that it does not appear on the face of it whether it is alcohol as a drug pure and simple to be administered by medical men and in the ordinary form of medicine that is intended or whether it is the prescription of ordinary alcoholic liquors that is recommended. If it is the latter the first thing that should be done is to fix some standard of quality. As a chemist I know the extremely various constituents of the different alcoholic liquors in common use and to give a general recommendation, such as that which appears over the names of these gentlemen, seems to me to be a departure from those accurate preparations of medicine which one imagines takes place in the dispensing room. No one can object to the medical man using alcohol in the preparation of a medicine just as he might use strychnine or opium, but everyone can very properly object to the medical man telling his patient to go to the wine merchant or the public house for his physic. The fact that alcohol may be of value in the abnormal conditions of the sick body does not in the least degree show that it has any value to the healthy body. The opinion is expressed that the majority of men can use alcoholic liquors in moderate quantity without harm. The manifesto would have been more convincing if something in the shape of data had been given in support of the opinion. Why not bring forward new information controverting the experience of the life assurance societies? Why not show that the marvellous decrease in the consumption of alcohol in the general hospitals and infirmaries during the past 30

years has been a mistake? Why not bring evidence to show that the alcoholic patient is a better one than the non-alcoholic? And why not give a scientific definition of what is meant by the abuse of alcohol?

I am, Sirs, yours faithfully,

April 2nd, 1907. WALTER N. EDWARDS.

To the Editors of THE LANCET.

SIRS,—I observe that in THE LANCET of to-day's date a statement on alcohol is published to which my name has been attached without an addition which I had made a necessary condition to this being done.

The addition is that of the word *many* before the word "adults" in the second last paragraph, a paragraph which deals with the use of alcohol as an article of diet, as distinguished from its use as a therapeutic agent. I am informed that this word was actually inserted in the proof before authority was given to add my name to the statement.

The condition of my consent was therefore that the part of the paragraph referred to should read, "..... the moderate use of alcoholic beverages is, for '*many*' adults, usually beneficial," &c. I am, Sirs, yours faithfully,

Edinburgh, March 30th, 1907. THOMAS R. FRASER.

*** The error was not made by us.—ED. L.

THE TRANSMISSION OF PLAGUE.

To the Editors of THE LANCET.

SIRS,—The report in the *Journal of Hygiene* from the Plague Commission in India has established very conclusively the fact that the flea is the most important factor in the transmission of plague from rat to man. This report confirms the theory first formulated by Simond and afterwards further elaborated and demonstrated by Elkington, Thompson, and Tidswell. Elkington's paper, published in the *Australasian Medical Gazette* for August, 1903, can be said to have first scientifically shown the transmission of plague from rat to rat by means of the flea. The reports on the Sydney outbreaks 1900–1904 are valuable records of a systematic research by epidemiological methods into the etiology of plague and constitute a most valuable collection of data in connexion with the disease. Elkington's paper and the Sydney reports can claim to have scientifically proved the connexion of rats and fleas with the recurrence of plague in man, and we think that these workers have not received that recognition that their results deserve.

Our object in writing this letter is to show that the splendid opportunity of studying outbreaks of plague on a large scale in a European community has not been lost and that scientific work of a high character in connexion with the disease has been carried out in Australia. We would also like to point out that while imperial honours, as is only right, have frequently been conferred on the medical officers of the various smaller colonies, those of the great self-governing States have hitherto been almost entirely ignored, though much valuable work, often of world-wide importance, has been done by such officers.

In conclusion, it is hardly necessary for us to say that, working as we do in a far-distant part of the Australian Commonwealth, we have no direct connexion with the three investigators above mentioned, though profiting much by their researches, and as a natural delicacy has prevented them from laying claim to the credit which is their due, we who are able to estimate the merit of their work have considered it right to take this opportunity of making it known.

We remain, Sirs, yours faithfully,

T. L. ANDERSON, M.D. Melb.,
Special Medical Officer, Fremantle, W.A.
J. BURTON CLELAND, M.D. Syd.,
Government Pathologist, Perth, W.A.

Public Health Department, Central Board of Health, Perth, W.A., Feb. 23rd, 1907.

THE PRODUCTION OF THE HOT CROSS BUN.

To the Editors of THE LANCET.

SIRS,—Attention has been called in the lay press this Eastertide to the conditions of production of hot cross buns. One's first inclination is to attribute the outcry to the requirements of journalism during recess, but there can be no doubt that there is serious reason for the protests which have appeared. I have been told by an absolutely reliable and highly expert authority that in 80 per cent. of bakehouses the additional work entailed is well nigh intolerable. The custom of the trade is on the Wednesday in Holy Week to work all night baking bread for Thursday and Friday, and then, without rest, to begin making the hot cross buns for Friday. This is done, of course, in batches, each batch requiring the nicest attention and close watching. The temperature of the bakehouse averages 90° F. and the atmosphere is rendered additionally trying by the steam from the buns and the fumes of the furnace ash. Often the bakers work from 30 to 36 hours without sleep immediately after the extra bread-making entailed by Good Friday, and it is no unusual thing for the men to drop off to sleep whilst at work, in spite of every effort to keep awake. During this period, too, the shop assistants have to be on duty to remove the buns from the baking sheets, to store them in the shop or place them in bags for delivery, but of course this duty cannot be compared to the strenuous work of the bakehouse. It requires little imagination to foresee the state of exhaustion of the regular and journeyman baker when Good Friday arrives, after so many hours of labour at such a temperature, labour, too, demanding the most unremitting care and almost the master-touch. Though Cross has replaced Crescent the hot cross bun is the direct descendant of the cakes offered to the Queen of Heaven and comes originally from the Phœnician worship of Astoreth. Still, that is no reason why in the twentieth century we should encourage our good friends the bakers, even voluntarily, "to pass their sons through the fire" to the Moloch of fashion.—I am, Sirs, yours faithfully,

J. ALISON GLOVER, M.D. Cantab., D.P.H.

Highbury, March 31st, 1907.

THE UNIVERSITY OF LONDON SENATORIAL ELECTION.

To the Editors of THE LANCET.

SIRS,—I must take exception to the hysterical heading of Dr. E. H. Starling's letter in the *British Medical Journal* of March 30th. There is no "threatened disintegration of the University of London" but there is a strong desire on the part of many of its graduates that the radical changes initiated since its reconstitution should cease in order that its high position, obtained by a steady process of evolution during a long term of years, may not be lost. It is to give these graduates an opportunity of expressing their desire I have consented to nomination for the vacancy on the Senate in May next. We recognise in Sir Thomas Barlow one of the parents of the concentration scheme at South Kensington, which now stands condemned by the vote of the Medical Faculty on March 19th, when Dr. H. A. Caley and Dr. L. E. Hill defeated Dr. J. R. Bradford and Dr. J. K. Fowler, the former representatives on the Senate. Dr. Starling states, "The suggestion as to the lowering of the standard of the degrees is devoid of foundation." How does he reconcile this statement with the following official statistics? At the intermediate medical examinations for the quinquennial period 1892 to 1896 45·2 per cent. of the candidates were rejected; from 1897 to 1901 40 per cent.; and from 1902 to 1906 30 per cent. At the 1906 examinations only 27·2 per cent. failed to pass. Then, again, at the M.D. examinations. In 1906 only eight candidates in 60 failed and in December, 1905, but three in 20 were rejected, whereas in July of that year 12 failed out of 31. In July, 1906, 14 presented themselves in medicine and 13 passed, and last December 17 entered and 15 passed. In midwifery and diseases of women six presented themselves in December, 1906, and five passed; and in July of that year 11 entered and ten passed.

I am, Sirs, yours faithfully,

London, April 1st, 1907. ERNEST W. WHITE.

THE ALLEGED INCREASE OF INSANITY

To the Editors of THE LANCET.

SIRS,—In Dr. G. H. Savage's Lumleian lecture which is published in THE LANCET of March 30th, p. 855, it is stated in connexion with the subject of general paralysis of the insane: "In the last report general paralysis is stated to be increasing more rapidly in Edinburgh than in Glasgow. This seems hard to explain, but I am inclined to think that more careful clinical examination in Edinburgh may account

for the fact." Dr. Savage is, of course, quite entitled to think as he pleases, but when he puts his thought into speech or print and throws what is apparently a slur on the methods of clinical examination in Glasgow he should give reasons to show what has led to his belief. Is it not the fact that the recognition of general paralysis is more difficult than at first sight appears? that, in other words, more careful clinical examination is required to say what is not general peralysis than what is? Is Dr. Savage prepared to point out any pathognomonic sign of general paralysis? Does he believe that the bacillus paralyticans of Ford-Robertson is the cause of the disease and the presence of that organism pathognomonic?

As one who has taken a great practical interest in the study of this particular question, I still am of opinion that there is no pathognomonic sign of general paralysis of the insane and that it is a disease which is often liable to be confounded with cases of cerebral syphilis, saturnine poisoning, psychasthenic, alcoholic, and other forms of the insanities. In this particular asylum, which is the largest in Scotland, and one of the number serving Glasgow district, the method of examining all newly admitted cases is such that no patient is allowed out of bed until an accurate report of his bodily and mental condition has been made. When the admitting physician is in any difficulty it is invariably the custom for him to consult with the other medical officers, all of whom have had varied experience in general hospitals before they became asylum physicians. I will be glad to hear through you on what grounds, if any, Dr. Savage has based his belief regarding the inferior clinical methods pursued at Glasgow as compared with Edinburgh.

I am, Sirs, yours faithfully,

HAMILTON C. MARR.

Medical Superintendent, Glasgow District Asylum,
March 30th, 1907. Woodilee, Lenzie.

THE BIRMINGHAM GENERAL HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Your Birmingham correspondent has either been misinformed or has expressed himself in a misleading manner when he writes that at the General Hospital "steps are being taken to form a plan for the treatment of the more simple cases as dispensary or club patients," which might be taken to mean that the hospital is contemplating the establishment of a dependent dispensary or club. No such proposal has been made but a report of a committee is under consideration which proposes to get rid of that class of patient which can be adequately treated by existing dispensaries or clubs, after rendering these applicants merely such first aid as may be urgently required. I am sending you a marked copy of the *Birmingham Daily Post*, which contains the speech of the chairman of the board upon which, presumably, your correspondent founded his remarks.

I am, Sirs, yours faithfully,

March 25th, 1907. ROBERT SAUNDBY.

THE POLLUTION OF WATER-COURSES.

To the Editors of THE LANCET.

SIRS,—Some of your readers may be able to advise me in the following circumstances. I am resident on my own property on the banks of the river Blackwater, more than one mile below the town of Witham, Essex. This town has recently provided for itself a new water-supply, a new railway station is in course of erection, numerous houses are being built, and, though our rates vie with those of Poplar, the beautiful surrounding country renders it a desirable place of residence. A system of sewerage, with an adequate farm, seems to be efficiently worked; but in the town itself is a fell-mongery with a number of tanks, in which hides and animals' feet are soaked with lime. The contents of these tanks are discharged by simply lifting a sluice every week into the Braintree stream, an affluent of the Blackwater. Two larger tanks are discharged at night, for very obvious reasons. This mass of unspeakable filth passes through a portion of the town, carrying with it quantities of fish, dead and dying. Even at my property the smell is at times abominable; and the agitation of the water in any way produces a mass of seething foam like soap-suds. As the owner of one mile of river bank I have always been ready to permit the free use of it by anglers, who a few years ago called it the best piece of roach fishing in England; but as I write numerous fine fish lie dead near my garden, and the anglers' occupation will soon be gone.

I have seen pedestrians drink from the river in front of my house, so clear is it at times, and yet the Witham folks wonder why they have cases of diphtheria in the town and why there have been outbreaks of typhoid fever.

I am, Sirs, yours faithfully,

G. W. GRABHAM, M.D. Lond., M.R.C.P. Lond.

Witham, Essex, March 30th, 1907.

THE RIDEAL-WALKER COEFFICIENT.

To the Editors of THE LANCET.

SIRS,—We ask a few lines of your space to state that it has been found necessary to substitute the term "Rideal-Walker Coefficient" for that originally introduced by us—viz., "Carbolic Acid Coefficient."

The necessity for adhering strictly to the *modus operandi* prescribed in our test has been strongly emphasised in the last two or three years since we published our method, and that this caution is necessary is shown by the fact that many disinfectants are advertised as having a certain "carbolic acid coefficient" when the figure given has obviously been obtained by methods having little or nothing in common with the test as described in the journal of the Royal Sanitary Institute,[1] thus introducing confusion and robbing the term of the value it originally possessed. Much of the success of our method is due to the fact that we provide for the postulant and control being tested not only *in* the same time but *at* the same time. As the resistance of the test organism, even when subcultured from the same stock, varies from day to day it is unfair and misleading to offer a "coefficient" obtained by testing the postulant on one occasion and the phenol control on another. Similarly, when the "thread," "garnet," or any modification of the Rideal-Walker test has been employed information that such a method has been used should accompany the "coefficient" and the latter should certainly never be advertised without this information.

It is therefore most desirable that bacteriologists when reporting on the germicidal value of a disinfectant should specify precisely the method employed. Great discredit has been thrown on the Rideal-Walker test by the publication of results obtained by the worker modifying the technique—sometimes to a very large extent—without notifying the modification, and many of the discrepancies referred to by critics are directly attributable to this fact.

We are, Sirs, yours faithfully,

SAMUEL RIDEAL,

April 2nd, 1907. J. T. AINSLIE WALKER.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

To the Editors of THE LANCET.

SIRS,—Mr. R. W. Rea has introduced into Parliament a Bill "to make provision for vacation schools and for the medical inspection and treatment of school children." This Bill has passed its second reading and was referred to the Standing Committee on Trade. There it was said that "existing organisations, whether philanthropic or charitable, should be made use of as far as possible and thus save the ratepayers' pockets." It was pointed out (*à propos* to the organisation of games) that in the London schools alone there were 2600 departments, that a responsible person could hardly be paid less than £100 a year, and thus an expense of £260,000 a year would be incurred; a clause was therefore added to the effect that the local education authority may encourage and assist voluntary agencies and associate with itself their representatives. The Government itself has introduced a Bill which contains practically Mr. Rea's Bill with the added clause. The Bills, therefore, include medical treatment. Mr. Jowett, M.P., would go further and wishes that the children should not only be treated but cured. He asked the Minister for Education what machinery by inspection or otherwise there was to be for insuring efficiency in the medical measures carried out; Mr. McKenna replied that the matter was receiving his careful attention; it would be well if it also received the careful attention of the medical profession.

When a charitable organisation is used to save the pockets

[1] Vol. xxiv., Part 3, 1903.

of the ratepayers the ratepayers become the objects of the charity; many ratepayers are rich people who have no wish to be the objects of charity; others, again, are corporations. In matters medical the voluntary organisations are the voluntary hospitals; at present the objects of their charity are not the ratepayers but the sick poor. The passing of these Bills might, however, legalise or inforce the change. The association of the education committees with the voluntary hospitals may so reduce the income of the profession as to injure not only it but the public for whom it exists. In your columns last week was an advertisement by an ophthalmic hospital for a refraction assistant. He is to be paid £25 a year and his lunch for two mornings a week. If we assume that the work will take three-quarters of his day and allow £15 for the annual value of lunch the whole time of a refraction assistant is worth £115 a year; the governors of the hospital might possibly say that they are not underpaying our profession because the remuneration is only intended as an honorarium, the real reward being the experience which will enable the assistant in a year or so to earn guineas in private practice; but the elementary schools are open to all classes of the community and in fact contain 96 per cent. of the children; thus the remaining 4 per cent. are to maintain the refractionists which one hospital alone is to turn out at the rate of three a year; moreover, if the assistant is only to hold his post till he has learnt his work 96 per cent. of the children will be treated by an imperfectly trained practitioner and there will be much need for Mr. Jowett's inspection. If the assistance education committees give to voluntary hospitals is to be of a pecuniary character in many cases a contract will be made, but with hospitals which already charge out-patients it will only be necessary to send round a batch of children in charge of a teacher provided with the proper amount of pence. If, in addition to refraction, throat, ear, and tubercle assistants are appointed, and to find and sort the defective children there be appointed a lady school medical officer, at a salary for her whole time of, as has been proposed, £100 a year, without lunch, without annual increments, and without pension, then the income of the profession will be reduced and very possibly its usefulness curtailed.

Sir John Gorst in his "Children of the Nation" says: "Every municipality has under the Public Health Acts, as the sanitary authority, the most ample and unrestricted power to provide hospitals for the sick, for the use of the inhabitants of their district. They can either build them or rent them or enter into a contract with the managers of an existing hospital to pay for patients sent by the municipality." If this is so all that is necessary is to empower the Central Government to compel unwilling local authorities to exercise their dormant powers. It is said that this Government Bill contains only non-contentious clauses; so far as medical inspection is concerned this may be correct; the subject has already been inquired into by a committee and no wide differences of opinion brought to light; but with respect to medical treatment at the cost of the rates or by a private practitioner or by a voluntary hospital the clause is only non-contentious because its purport is not realised; the Committee on Medical Inspection just referred to very properly abstained from expressing any opinion on medical treatment; the Minister responsible says he does not know what the cost would be; no one knows that the cost would not exceed the highest possible yield of the rates. Further, the principle of the clause threatens the independent existence of the medical profession and is based on a socialism that has yet to be shown to be workable. The best course, as it seems to me, would be to pass medical inspection and to refer medical treatment to a Royal Commission.

I am, Sirs, yours faithfully,

March 27th, 1907. J. S.

MEDICAL PRACTITIONERS AND THE MIDWIVES ACT.—At a meeting of medical practitioners of Deptford, Greenwich, and Charlton, held at the Parochial Hall, East Greenwich, on March 28th, it was unanimously resolved that in the event of assistance being required by a midwife under the recent Act, the nearest available practitioner ought to be called, and that the fee should be paid by the guardians on a joint certificate, signed by the medical man and the midwife, stating the reasons why such assistance was necessary. It was further resolved that copies of this resolution should be sent to the guardians and Mr. Hamilton Benn and Lord Alexander Thynne.

THE DISPENSARY QUESTION AT COVENTRY.

(FROM A CORRESPONDENT.)

COVENTRY Provident Dispensary and its relations with the medical staff of the institution is not a new subject in the professional journals[1]; but now that within the past fortnight the resignations of five out of the seven medical men have been accepted a new turn has been given to affairs; and seeing that the lay committee must at once endeavour to fill the vacancies which will actually exist in June the profession in general will watch with curiosity whether the committee is successful in its efforts.

It is some dozen years since public attention began to be called to the conditions under which the Coventry Dispensary was conducted and from time to time some small reforms were carried out, under pressure from the medical staff, acted upon by professional men outside. In April last year the Coventry division of the British Medical Association passed a resolution deprecating connexion with any provident dispensary managed on lines fundamentally different to those laid down by the Association, and following on this action the dispensary staff addressed a letter to the committee asking for large alterations—a wage-limit for membership; every medical man in the district to be allowed to act for the dispensary; and the committee of management to consist of the whole staff, the chairman of the Coventry division of the British Medical Association, and an equal number of lay members. There were also requirements as to disposal of income and the collection of weekly payments of members. Briefly, it was proposed to make fundamental changes in the administration and such as would give the profession a controlling power. The committee expressed its willingness to meet the staff on some points, but the concessions were "so valueless," wrote Dr. W. J. Pickup, Dr. T. A. Hird, Dr. W. W. Fenton, and Mr. W. E. Heal, "that it is impossible for us to accept them." These concessions were not to become operative till the dispensary was removed from the professional "black list."

On March 9th Dr. Pickup, Dr. Hird, Dr. Fenton, Mr. Heal, and Mr. A. J. Arch tendered their resignations, leaving Mr. D. I. McVeagh and Dr. J. A. Loudon in office without their positions being respectively disturbed. On the 21st the committee called the members of the dispensary together and St. Mary's Hall was crowded. A long statement, prepared by the committee, was read and it was stated that in the three years ending March of last year Dr. Pickup received a total of £1653 from the dispensary by way of fees; Dr. Hird, £2435; Dr. Fenton, £1322; and Mr. Heal, £853. The great difficulty in bringing about an amicable settlement (the committee further stated) was the uncertainty as to proposals being regarded as likely to last for any length of time. They could not yield upon the points in dispute without sacrificing the independence of the institution and giving away the interests of the members. One of the demands of the medical men was that they should have the right to sell their dispensary practices. The committee says that there is nothing in the fundamental principles of the British Medical Association to warrant this demand. The answer made on behalf of the five medical men to the point is that the Association rules governing contract work simply relate to the lines upon which medical men should conduct these practices. Such practices are their own to do what they like with them and there was, therefore, no need for rules to be drawn up that they should nominate their successors or sell their practices. But the claim of the dispensary committee was that the practices were not the medical men's but the committee's, and the latter claimed the right to give the medical men three months' notice and give other men the practices. The staff say they have an asset in the practices, for one reason because they have to make sacrifices in working them—e.g., they cannot carry on private clubs nor hold any other public appointments.

So the dispute remains, and in accordance with the tenour of the resolution passed at the meeting the medical staff's resignations have been accepted. Matters will probably rest much as they now are for another few weeks, during which Dr. Pickup, Dr. Hird, Dr. Fenton, Mr. Heal, and Mr. Arch will decide in what form they will

[1] Vide THE LANCET, June 12th (p. 1637) and 19th (p. 1709), 1897, and Nov. 4th (p. 1260), 1899.

continue contract practice and the dispensary committee will be making efforts to fill the impending vacancies, though whether it will need five new men is doubtful, for if the seceding medical men carry with them any large number of present patients the future dispensary staff will not need to consist of as many medical men as it has hitherto. There will still be a medical service under some or all of the five practitioners in one form or another. It will be remembered that one of the recommendations of the Medico-Political Committee's report of July, 1905, was that contract practice should be in the hands of some organised local body representative of the profession; that it should be open to every practitioner in the district to take part in the work should he desire to do so and conform to the regulations of the profession; that the details of administration should be under the direct control of a purely medical committee representing both those that do and those that do not take part in contract work. It is also insisted in the report "that to render professional coöperation as complete as possible the divisions should endeavour to secure the inclusion of every practitioner in their membership."

While there is already a public medical service in Coventry—started several years ago, when dispensary matters were then being acutely discussed—it is the intention of the medical men who are leaving the dispensary to set up a service of their own. It is also understood that the rules under which the work is to be carried on will be submitted to the Coventry division of the British Medical Association, but it does not seem to be contemplated either to form one service "open to every practitioner in the district to take part in the work" or to place the control in the hands of any local body representative of the profession. It is worth while to mention that there are already in Coventry three or four private medical clubs, and the new service will apparently be an extension of this form of contract practice.

The general conditions under which the seceding medical staff will work after leaving the dispensary have been made known in a joint circular which has been issued to those members of the dispensary whom these particular members of the medical staff have been in the habit of attending. They propose to charge the same fees as are charged at the dispensary; each medical man will see patients at his own house, and in order to meet the convenience of members and to distribute the work more evenly they propose to see patients both morning and afternoon; while with regard to any clubs attached to the dispensary which might wish to continue under their care, they propose to see members every evening instead of as at present one evening per week. A house is being fitted up as a dispensary. These conditions should make for a better state of things than that which has prevailed in the institution. The medical men now receive 2*s.* 2*d.* per patient per year, and it will be at once apparent as a matter of arithmetic that to earn the larger sums stated above several thousand patients must be dealt with in the course of a single year. No official statement is made as to the number of members in the dispensary, but it is known to be, including club patients, well up to 22,000. Such a number takes out a large slice of the population to be estimated when a medical man may be contemplating buying a practice or starting a practice in Coventry. Moreover, it may be assumed that the club men are followed to their own medical attendants by members of their respective families.

There was much discussion at the dispensary meeting on the question whether the future dispensary staff would be able to secure consultations, keeping in mind the circumstances in which they will have gone to Coventry. It would seem that the dispensary committee is expecting to join the Friendly Societies Medical Association, and a speaker at the meeting stated that he had been informed by the secretary of the association that there was no difficulty now in obtaining consultations. With regard to the Midlands this is not so certain, for it is no secret that all through the efforts made to obtain reform in Coventry the coöperation of the Birmingham branch has been assured. It has been given out with an air of authority that the dispensary committee can secure the services of a sufficient number of medical men to carry on the work after the departure of Dr. Pickup, Dr. Hird, Dr. Fenton, Mr. Heal, and Mr. Arch. Any practitioner who contemplates taking such appointment will do well to become conversant with the facts of the case. The struggle going on is being watched with keen interest by the profession at large on the one hand, and by dispensary committees up and down the country on the other.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Local Hospital Reports.

AT or about this period of the year the annual reports of the majority of the hospitals are being presented and it is the time when we can estimate most readily the amount of work that the hospitals are doing, its type, its cost, and the support which is being given by the general public. In previous communications I have drawn attention to the fact that continually increasing work must of necessity be associated with the continued increase of population, but unfortunately it is not associated with a corresponding increase of monetary support. The General Hospital is perhaps an exception, its income for the past year exceeding the expenditure, but even in its case the ominous statement was made that the amount received from subscriptions had fallen off. The reports of the Queen's Hospital, the Hospital for Sick Children, the Birmingham and Midlands Women's Hospital, and the Birmingham Skin Hospital all record increased work, excess of expenditure over income, and either diminution or inadequate increase in the amount of subscriptions. It would scarcely serve any good purpose at the present moment to analyse the causes which produce these results, but those more particularly concerned should note that the unsatisfactory position of subscriptions to hospitals is coincident with what is spoken of as a prosperous period. To pass to more detail, the General Hospital and the Hospital for Sick Children have been considered on previous occasions. The Queen's Hospital reports an income of £10,584, or £475 less than in the previous year, and an expenditure of £11,755. During the year 2307 in-patients and 34,213 out-patients were treated, making a total of 36,520, or 3235 more than in the preceding 12 months. The increase in the number of patients is very considerable and is no doubt partly due to the new service of trams which takes patients to the doors of the hospital. A very satisfactory point in the report of this hospital is contained in the statement that in spite of the great increase of cases the expenditure has been slightly reduced. Progress is being made in connexion with the erection of new buildings. For this purpose a sum of £22,124 has been promised, of which £17,177 have already been paid into the bank. It is found, however, that the greatly increasing pressure in the out-patient department will necessitate an extension of the scheme and an additional sum of £12,000 will be required. The record of the Women's Hospital, except so far as finances are concerned, is particularly good. Both in-patients and out-patients have increased in numbers; 728 operations were performed, or 238 more than in 1905, and amongst these were 391 cases of abdominal section, with an extremely low death-rate of 2·3 per cent. It is true that the death-rate is not quite so low as in the previous year, when it was 2·1 per cent., but it is very satisfactory and is far below the average. In the Skin Hospital the in-patients increased by 16 and the out-patients by 272, as compared with 1905. The expenditure was £173 more than in 1905 and the receipts were £37 less, the total excess of expenditure over income amounting to £235.

Proposed Sanatorium for Consumptives.

Two years ago the council instructed the health committee to consider the sanatorium treatment of pulmonary tuberculosis. The committee proceeded carefully and thoroughly into the matter; it has obtained a large amount of information and at an early meeting of the council it will recommend that active steps should be taken. The medical officer of health, Dr. J. Robertson, strongly urges that a municipal sanatorium should be provided for the double purpose of dealing with curable cases and educating the people with regard to the proper means of fighting the disease, and the committee will propose that the council should purchase an estate on the Leckhampton Hill, about three and a half miles from Cheltenham. The mansion which stands on the estate could be utilised for administrative purposes, the grounds are admirably situated, they lie 800 feet above sea level, and there is plenty of room for the erection of the necessary buildings. The estate includes not only the mansion and the surrounding 58 acres of ground but also a farm of 320 acres with a farmhouse and 12 workmen's cottages. The mansion and the surrounding 58 acres

would have been quite sufficient for the purpose in view, but it cannot be obtained alone, for the estate is to be sold as it stands. Possibly if the council determines to buy it it may prove eventually to be a good investment, though the present return from the rental of the farm and cottages is not great.

An Instructive Exhibition.

In the National Trades Exhibition which is being held in the Bingley Hall a most instructive section is devoted to "sweated industries." The work is monotonous and sufficiently depressing as it is done in the comparatively large space devoted to it at the exhibition, but that is not its chief defect, for looked at from a medical point of view it suggests great possibilities of danger and disaster, when it is remembered that much of the work is done in the workers' own homes amidst what must be in many cases most insanitary surroundings. It matters not whether we who buy pay much or little, the danger is there, though it may be greater the less we pay; but how many of us ever inquire whether the things we use were made in a healthy workroom or amidst such surroundings as a worker can secure who can only earn from 16*s.* to 18*s.* a week after working from 10 to 12 hours a day? The danger of infection with diseases we would avoid lies in the clothes we and our wives and children wear, the hooks, the safety pin, and buttons with which we fasten the clothes; in our artificial flowers, in our umbrella bands, in the embroidery on ladies' slippers, in the pill boxes we sometimes use, in the metal boxes which are more frequently in our hands, and even the Bibles we read, for their pages may have been folded under insanitary conditions, at the rate of 1*d.* per 100 sheets. Looked at from a purely sanitary point of view it is quite clear that manufacturers should not be allowed to give out work to be done in the workers' homes, and we must be prepared to face the fact that the stopping of such home-done work will make still harder the lot of some of those whose lives are at present almost unbearable and that we shall have to pay a little more for our necessaries.

Reafforestation.

The transformation of the ugly heaps of refuse and pit mounds which abound around Birmingham into tree-clad country is proceeding not very rapidly perhaps but still steadily and satisfactorily, and no one can doubt that the final result will be an increase in the physical and mental health of the surrounding population. The experimental stage has been passed and the Midland Reafforestation Society is continually gaining adherents. On March 23rd at a public meeting held in the Wolverhampton town hall a new local branch was formed, one of its objects being the reclamation of the at present hideous ground which lies between Wolverhampton and Birmingham. Speaking at the meeting Sir Oliver Lodge gave some interesting details of the work. He stated that the cost of planting was £5 per acre for large plots and a little more for small areas, and he pointed out that the association was not seeking for profit and could not expect any for 15 years, but after 20 years the profit on the planting would probably amount to 2½ per cent. compound interest from the time of planting. The long time which must elapse before any return is gained is one of the main difficulties which stands in the way of the association and retards most useful work.

April 2nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Consumption Hospital: Tuberculin in Pulmonary Tuberculosis.

THE annual report of the Liverpool Consumption Hospital contains the announcement that "the committee, acting on the advice of their medical board, have thought it their duty to equip a laboratory and appoint a pathologist in order that the patients of the institution may reap the full advantage of recent advances in medical science. These advances point to the possibility of estimating from hour to hour the patient's resistance to the tubercle bacillus and of raising or lowering this resistance at will." The medical board, in its report, states that there are at present 30 patients under treatment and that the results so far are distinctly encouraging. It emphasises the fact that the treatment is still in the experimental stage but adds, "Should the treatment ultimately prove successful, it must undoubtedly revolutionise the treatment of consumption among the working class, as it would appear to render it possible to treat a working man without depriving his family of their livelihood." Whether this attempt of the Liverpool Consumption Hospital be successful or not, it will be agreed that it should be made and it is right to wish it every success. The benefit derived from the use of tuberculin in cases of surgical tuberculosis being well known, why should it not also succeed in pulmonary phthisis? So far only partial success has attended its administration. The question arises, Is a different tuberculin required in the latter case, or has it yet to be learnt when to give it and in what doses? These facts can only be obtained by experience, slowly acquired with the help of a well-equipped laboratory. Certainly no effort should be spared to acquire that knowledge. Anyone with practical experience of the treatment of pulmonary tuberculosis amongst the poorer classes must admit that in their case the sanatorium treatment is not satisfactory, for the simple reason that, to them, it becomes impossible. A patient cannot be maintained in a sanatorium for less than 30*s.* a week or thereabouts. This amount must be found by the individual or by philanthropic agency. Obviously, only a favoured few can find so much. Nor is this all. Whilst under treatment in the sanatorium the patient earns nothing and his family is compelled to go "on the parish." The knowledge of this dread fact deters many from going to the sanatorium until the last possible moment, when it becomes too late. Whatever its absolute merits may consist in, the sanatorium is practically closed to the poorer classes for purely economic reasons. The solution of the problem may possibly be found in the use of some such vaccine as tuberculin.

Mr. Arthur J. Evans.

Mr. Arthur Evans, the medical officer of the steamer *Port Kingston*, who distinguished himself in connexion with the Jamaican disaster, had the honour of being presented to the Prince and Princess of Wales at Knowsley by the Earl of Derby on the evening of the Grand National day. His Royal Highness warmly congratulated Mr. Evans on his arduous and humane work during the great disaster and spent a long time in inquiring of him the particulars of the catastrophe. Mr. Evans was also introduced to Lord Roberts, who recognised in him a member of the medical staff who served with him in the South African war.

April 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever at Pontypool.

DURING the epidemic of typhoid fever which prevailed in Pontypool and the adjoining districts in the autumn of 1906 there occurred in Pontypool 169 cases and 12 terminated fatally. Commenting upon the outbreak in his annual report the medical officer of health (Mr. S. B. Mason) states that he found that the water company had been supplying water from a well the water of which was alleged to be impure and that the iron pipes leading from the well were laid alongside a brook which received the sewage from several houses and from a slaughter-house. In flood time the pipes were covered with water, so that there was the possibility of secondary pollution. The Pontypool district council is advised by its medical officer of health to provide an isolation hospital, a steam disinfector, a dust destructor, and a public slaughter-house, and to consider the desirability of providing a common lodging-house and efficient sewerage for the district.

Compensation for Tuberculous Cattle purchased by Butchers.

Some four years ago a form of mutual insurance was established in the Cardiff and Newport districts for the payment of compensation to butchers who at the public auctions purchased cattle which were subsequently found to be tuberculous and were destroyed. The contributions to the fund by the farmers, auctioneers, and butchers were very small and although only two-thirds of the value of the animal was paid to the purchaser the scheme has been found to work well. It is to be regretted therefore that the Newport butchers are desirous of withdrawing from the fund. They assert, as a reason for withdrawal, that the full

value of a tuberculous carcass should be paid to the purchaser by the State.

The Sewerage of Bath.

The Somerset county council has for some time been endeavouring to persuade the corporation of Bath and the sanitary authorities of the adjoining districts to take steps to purify the sewage which at present is discharged untreated into the river Avon. The county council has been extremely patient and has postponed enforcing its powers under the Rivers Pollution Acts in the expectation that voluntary action would be taken by the sanitary authorities concerned. As this expectation was not fulfilled the county council decided to take definite action with the result that the corporation of Bath has at length admitted that the time has arrived when the future disposal of the city sewage should be dealt with. It is not, however, in any hurry to give practical effect to this opinion, and having regard to the enormous cost involved in carrying out any sewerage scheme, and to the uncertainty existing as to the best system to be adopted, it requests the county council to defer taking proceedings until the report of the Commission now sitting has been presented to Parliament. Some 12 years ago a very comprehensive scheme was considered by the corporation and was only abandoned on account of the great cost involved. Since then suburban Bath has increased to a considerable extent and many of the suburbs are outside the city boundaries. It would appear, therefore, desirable that a joint scheme should now be promoted by the Bath corporation and the neighbouring authorities.

Bristol Eye Hospital.

The ninety-sixth annual meeting of the subscribers of the Bristol Eye Hospital was held on March 27th under the presidency of the high sheriff (Mr. H. Daniel). The medical report stated that during 1906 the in-patients admitted numbered 454 and 6805 out-patients were treated, compared with 500 in-patients and 6250 out-patients in 1905. The financial statement showed that there was an unfavourable balance of £259.

April 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Proposed Testimonial to Professor J. G. McKendrick.

ON the initiative of the business committee of the general council of the University of Glasgow it has been resolved to take steps to recognise in some appropriate manner, on the occasion of his retirement from the chair of physiology in the University of Glasgow, the long and distinguished services of Professor J. G. McKendrick as a scientific and public man and to give expression to the personal esteem in which he is held by his many friends throughout the country. The form of recognition will to some extent depend on the amount subscribed, but it is thought that the first object to be aimed at should be the presentation to Professor McKendrick of his portrait or bust by an eminent artist. It is understood that it would be specially gratifying to him if in addition it were possible to furnish, or assist in furnishing, a laboratory for experimental psychology in the new physiological buildings of the University of Glasgow. Experimental psychology, which deals with the practical examination of mental processes, lies between physiology and psychology and has always attracted a large part of Professor McKendrick's time and attention. So convinced is he of its importance that at his suggestion two rooms have been set apart for this subject in the new University buildings. Both in America and on the continent, and more recently in most of the universities at home, experimental psychology is fully established as a recognised study, and great progress has been made in the experimental examination of many phenomena connected with the interaction of body and mind. Further, in recent years the study of the characteristics and development of the mind in early life has come to be regarded as an important branch of the science of education, and there can be little doubt that the principles and methods of experimental psychology will soon form part of the training of teachers. For these purposes many costly and special appliances are necessary. It seems likely that the committee which has charge of the scheme will be able to carry it through successfully, as the first list of subscriptions amounts to nearly £500.

Glasgow Hospital Sunday Fund.

The total income for the year from churches and Sunday schools, including donations and bank interest, amounted to £5079 3*s.* 1*d.*, showing an increase of £248 8*s.* 2*d.* The sum set aside for distribution is £4830, and this will be allocated as follows: Royal Infirmary (580 beds), £2205 16*s.* 6*d.*; Western Infirmary (469 beds), £1783 13*s.* 7*d.*; and Victoria Infirmary (221 beds), £840 9*s.* 11*d.* One wonders a little at the precision which docks the Victoria Infirmary of one penny to present it to the Western Infirmary, but the Fund is to be congratulated on its work.

New Hospital in Skye.

Last week there was opened a cottage hospital recently erected at Uig on the Congested Districts Board's estate by the trustees of the late Mr. John Martin. The hospital has a fine situation on rising ground, overlooking the bay, and has a southern exposure. It consists of two wings providing two wards with three beds in each, with all necessary accommodation for matron and staff. The building has cost £1200 and Mr. James Coats, jun., of Paisley has generously furnished the hospital with a complete set of surgical instruments and appliances and also a fully equipped dispensary cabinet.

April 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Dublin.

THE last fortnightly meeting of the public health committee was held in the municipal buildings on March 26th. Sir Charles Cameron reported that the death-rate for the two weeks ending March 23rd from all causes in the city was 25·9 per 1000 persons living, the mean death-rate in the corresponding period of the previous ten years being 31·9. In the Dublin registration area the general death-rate was 23·6 per 1000. Sir Charles Cameron reported that since March 6th three cases of epidemic cerebro-spinal fever had been returned, none of them in any house from which any previous case had been notified. In reference to a letter from the Dublin Cow-keepers' Association, transmitting a resolution passed by that body on the subject of boric acid as a preservative of milk sent into the city from country districts, the committee passed a resolution as follows:—

The public health committee warn parents against the use of any milk containing boracic acid as likely to be injurious to health.

Royal Victoria Hospital, Belfast.

At the annual meeting on March 26th it was reported that during the past year there had been 3280 intern and 27,626 extern patients. Of the medical staff, Sir W. Whitla, Mr. A. B. Mitchell, and Mr. R. Campbell retired in rotation during the year, but were re-elected unanimously. The total income from all sources was £14,875 8*s.* 3*d.*, while the expenditure has amounted to £15,253 1*s.* 6*d.* The sum of £10,136 19*s.* 1*d.* was added to the invested endowment fund during the past year.

April 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Complete Dislocation of the Metatarsus Outwardly and of the First Cuneiform Bone.

ON March 13th M. Walther read a paper on behalf of M. Soubotich of Belgrade who had had in his care a man, aged 50 years, presenting a curious little surgical injury. This patient, while going downstairs backwards in order to avoid falling, made a brisk movement of rotation. The front part of the left foot, however, did not follow the rest of the body in this movement and remained fixed. The patient developed outward dislocation of the metatarsus with rotation of the first cuneiform bone. A first attempt at reduction failed and failure was also the result of a second attempt made under chloroform. M. Soubotich then prescribed rest, massage,

and gentle movements. At the end of 15 days the patient began to walk and little by little the foot recovered all its functions, until 14 months after the accident, despite a little weakening of the plantar arch, the patient can use his foot naturally and without pain. M. Walther, in the course of reading the paper, exhibited some radiographs which he had taken himself of dislocation of the metatarsal bones outwards together with fractures of the cuboid bone. One of these cases occurred in a woman who walked well notwithstanding that she had had no treatment.

The International Exhibition of Urban Hygiene at Lyons.

An International Exhibition of Urban Hygiene will be held at Lyons from May 12th to 29th. It will coincide with various other meetings, among which is the visit of various British municipalities. The exhibition will be divided into 11 sections—viz., Dwellings, Drinking-water, Sewers, Highways, Buildings and Watercourses (*Voirie*), Municipal Buildings as a Whole, Schools, Infant Life Protection, Hospitals, Disinfection, General Sanitation of Towns, and the Fight against Prominent Social Evils (*Grands Fléaux Sociaux*). The exhibition is willing to receive anything which in any way is connected with urban hygiene. No charge will be made for exhibits or for floor space, but water, gas, or electricity consumed by any exhibitor will have to be paid for by him. Any information concerning the exhibition may be obtained by writing to Professor Jules Courmont, Laboratoire d'Hygiène, Faculté de Médecine, Quai Claude Bernard, Lyon.

Municipal Aid for Medical Education.

On the recommendation of M. Chautard the following sums have been allotted by the Municipality of Paris to medical education: to the Municipal Chair of Clinical Gynæcology, 15,400 francs; to the Municipal Chair of Clinical Surgery in Children, 15,400 francs; to the Municipal Chair of Biological Chemistry at the École de Pharmacie, 12,000 francs; for bursaries at the Faculty of Medicine, 5000 francs; for the Library of the Medical School, 2000 francs; for M. Charran, Laboratory of Experimental Medicine, 2500 francs; to the Physiological Station at Parc des Princes, 7000 francs; to the School of Anthropology, 9000 francs; and to the Pasteur Institute, 12,000 francs.

Gunshot Wound of the Lung.

At a meeting of the Society of Surgery held on March 13th M. Beurnier gave an account of this case in his own name and in that of his interne. The patient was a man, aged 36 years, who had received two bullets from a revolver in the præcordial region. The interne proceeded to operate as the case was very urgent. A flap of the whole thickness of the chest wall was turned up, which included the second, third, fourth, and fifth ribs, and dark-coloured blood was seen in the pleural cavity. One of the bullets was found under the visceral pleura and was extracted. The lung, which was wounded in four places, was sutured and the pleural cavity dried out with compresses. Drainage was made at the posterior and lower portion of the pleural cavity and the patient made a steady recovery.

Gunshot Wound of the Kidney.

At a meeting of the Surgical Society held on March 27th M. Walther read an account of the above case on behalf of M. Duval, a naval surgeon. At the operation the whole of the lower half of the kidney was found to be smashed and hæmorrhage was very abundant. A lumbar nephrectomy was performed and four days later signs were observed in the wound of an intestinal fistula. The fistula, however, closed spontaneously after a little time. It seemed likely that the colon had been bruised by the ball with the result that the wall of the bowel sloughed and so gave rise to a fistula.

April 2nd.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Cerebro-spinal Meningitis.

IN its wide diffusion this malady has not spared Italy, where, particularly in great commercial and industrial centres like Milan, it is still claiming many victims, young, adult, and elderly. In an interesting lecture before a post-graduate audience Dr. Edoardo Bonardi, professor of special pathology in the University of Pavia, seems to have thrown fresh light on the disease or, at any rate, to have started a theory already fruitful in instructive controversy. In the case of a boy presenting the "quadro classico" (classical picture) of cerebro-spinal meningitis he drew attention to two important features—one of them clinical, the other bacteriological. Coincident in the little patient with the cerebro-spinal meningitis there existed a "croupal pleuro-pneumonia of the right side," and the bacteriological examination of the "cephalo-rachidian liquid, extracted by lumbar puncture," yielded in the dry preparations, as in the cultures, the "diplococcus capsulatus of Tolamon-Fränkel"—the identical pathogenic germ of croupal pneumonia. Professor Bonardi concluded, therefore, that the case was one of "cerebro-spinal meningitis metapneumonic," differentiating it from the epidemic cerebro-spinal meningitis as "meningococcus intracellularis meningitidis," a form clinically more serious as being more malignant. Some of his colleagues objected that "there is no difference between the diplococcus capsulatus" and the "meningococcus intracellularis." To which Professor Bonardi replied that that view is rather out of date and not generally accepted and referred his critics to the recent monographs of Jäger and Marchal, the former of whom, dealing with the morphology of the meningococcus intracellularis, approximates it to the "gonococcus" and the "staphylococci," asserting that it has nothing in common with the "diplococcus pneumonicus." Marchal, moreover, analysing 513 cases of cerebro-spinal meningitis bacteriologically dealt with, puts 69·2 per cent. *en rapport* with the meningococcus of Weichselbaum and 28·8 per cent. with the "diplococcus capsulatus" of pneumonia, "which two micro-organisms," continued Professor Bonardi, "are usually distinguished with a rapid (dry) examination of the cephalo-rachidian liquid, comporting themselves frequently in an opposite manner with the method of Gram. Now," adds Professor Bonardi, "the relation between the meningococcus and the gonococcus sustained by Jäger is confirmed by sero-diagnosis—the one micro-organism and the other being agglutinated by the same (immunised) serum of the boy patient now convalescent from cerebro-spinal meningitis. As for the possibility of contagion, concludes Professor Bonardi, in cerebro-spinal meningitis "it undoubtedly exists. No one denies nowadays the contagiousness of typhoid or of croupal pneumonia, although in our hospitals patients yielding these infections are to be found associated with others in a common ward! Let the patients from cerebro-spinal meningitis, therefore, be isolated but equally so let those suffering from pneumonia, keeping in mind that the channels of contagion, numerous and in the main indirect, remain hidden for relatively long periods of incubation."

"Salviamo i Bambini Poveri."

"Let us save the poor children" is an appeal made to the Government by Professor Luigi Concetti, Director of the Pædiatric Clinique in Rome. Malaria, he urges, is, in the Italian communes, the chief enemy of infancy, either carrying them off after a brief illness or rendering them anæmic, or lowering their resisting power to all the more prevalent maladies, while inflicting often irremediable mischief on the digestive apparatus. Quinine, invaluable as a prophylactic or as a cure in malaria-affected children, is repugnant to them from its taste, nor even when that is disguised in wafers or tablets or lozenges is it easily swallowed. Preparations like "enquinina" or "aristo-quinina" (common enough in Italy) are too dear to be within the reach of the poor. Moreover, nearly all the above-named forms in which the drug is exhibited are found to have their objectionable qualities, causing in children diarrhœa, cardiac trouble, drowsiness, and, in the long run, asthenia. The tannate of quinine, being insoluble and not bitter, has for the last ten years been most generally administered. Not only was it well tolerated, but by reason of the tannic acid it corrected the diarrhœa so often resulting in malaria and caused no nervous disturbance. However, it was given up because it was "insoluble." That objection no longer exists. Like many foods and many drugs which are insoluble in water, it is easily reduced to the liquid state by the gastric and intestinal juices and so gets readily absorbed and passes into the system. Quite lately the Laboratoria del Chinino di Stato (State Laboratory of Quinine) has devised a preparation which removes all difficulty in exhibiting the salt and by incorporating the tannate with cocoa and sugar it has produced a "cioccolatino" (a chocolate bon-bon) which children take readily

and even eagerly. The State is now appealed to on the score of economy, so as to cheapen the bon-bons down to the purchasing power of the very poor; and it is confidently expected that its response will be such as to leave no commune, however indigent, without access to a remedy efficacious beyond all others in combating the national scourge.

March 30th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Centenary of the Operateurinstitute.

THE centenary of the foundation of the Operateurinstitute or school for surgeons in Vienna, which was established by the Emperor Francis I. on the suggestion of Dr. Kern, was celebrated, together with the eightieth anniversary of the birthday of Lord Lister, by a special meeting of the Gesellschaft der Aerzte. The institute has during the century of its existence been a very important means of instruction for surgeons. It was attached to the two surgical clinics of the University of Vienna in 1863, but was previously under the immediate control of the professor of surgery for the time being and the expenses incurred in the instruction of the surgeons were till that time paid by the Emperor. The growth of the institute and the importance of its influence on the present generation of surgeons may be judged from the facts that in 1863 there were 56 operations performed, whilst in 1899 the number was 712, and all the modern achievements of surgery attained in Austria are due to the pupils of the Operateur-institute. Professor Billroth was the only head of this school who had not been also a pupil of it. An address was delivered in honour of Lord Lister, whose discoveries had revolutionised surgery and had thereby profoundly influenced the institute. There was also a reception of former and present pupils of the school, who comprise several professors, *privat-docenten* and directors of hospitals, along with of other surgeons.

Influenza in Austria-Hungary.

Influenza has again been epidemic this year in Central Europe, especially in Austria, and the death-rate was high, whilst the incidence of morbidity was increased by fully 20 per cent. As a rule the complications were of a mild type and involved mostly the ear and the gastro-intestinal tract, whilst the primary attack was almost invariably localised in the upper air passages. The rapid changes in the weather, which especially in the months of January and February caused differences of temperature ranging from 18° to 20° C. in six or eight hours, were very favourable to the development of catarrhal diseases, amongst which influenza had a foremost position. During the last few years influenza has been made one of the notifiable infectious maladies, but many practitioners have shown much laxity in conforming to the regulation. The official statistics therefore report only a slight increase of influenza, whilst the complications, which were undoubtedly of a post-influenzal nature, are not shown in these statistics. The sudden changes of the weather also had an unfavourable effect on the mortality amongst infants. The number of hours of sunshine was reduced by 20 per cent. in comparison with the average for the last 50 years, so that the antiseptic power of the sun's rays had less opportunity of making itself felt.

Pseudo-Hermaphroditismus Masculinus.

At a recent meeting of the Gesellschaft der Aerzte Dr. Haim showed two sisters each with the same malformation. The elder one, who was 20 years of age, sought medical advice on account of the non-appearance of menstruation. It was found that she presented a series of masculine characteristics, such as a well-developed larynx, absence of mammæ, an exuberant growth of hair on all parts of the body, and a masculine arrangement of the pubic hair. As regards the genital organs the clitoris was very large, imperforate, and covered with a large prepuce, and the vagina was a short closed canal hardly admitting one finger. No trace of a uterus or ovaries could be detected by examination per rectum. In the right labium there was a hard nodule of the shape of a testicle, which Dr. Haim believed to be a testicle. She had been brought up as a girl, but had never felt herself drawn to the other sex. The younger sister, who was 13 years old, showed similar conditions, the only difference being that in the labia she had two of the nodules resembling testicles. The family history was unimportant except that the grandfathers of the parents were brothers. The father of the girls asked to have the two testicles of the younger girl removed, whilst the elder girl suffered from time to time from pains in her testicle, so that the question arose whether this operation, which might be called castration, was justified. The existence of these malformations naturally gave rise to some difficulty in the selection of an occupation for the girls.

Ulceration of the Skin after Diagnostic Application of the X Rays.

It is not often that a single cautious application of the x rays for the purpose of ascertaining the presence of metallic objects in the human body leads to grave consequences. Such a case, however, was shown by Professor Lang at the same meeting of the Gesellschaft der Aerzte. The patient was a man who had been suspected of having swallowed several rusty nails when in a psychopathic condition. The results of the examination by the x rays were negative, but 12 days afterwards the skin which had been exposed to the rays became inflamed and after two more weeks an ulcer formed. This ulcer showed no tendency to heal and after the lapse of a year covered an area of about 20 square centimetres. An operation was then performed in which the skin of the neighbourhood was also removed and the deep layer of the fascia and even fibres of the muscles were excised. The final result was a defect of about 80 square centimetres, which was covered by the Thiersch method. At the present time, one year after the operation, the scar tissue extended to about 100 square centimetres, was of excellent quality, and was freely moveable, without any fixation to the muscles. Professor Lang laid special stress on the necessity of deferring surgical interference in such cases until the degenerative process had ceased.

March 27th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A National Endowment for the Improvement of Social Conditions.

AMONG the bequests which possessors of great wealth in the United States are making for the benefit of the people of the whole country the most striking is that of the widow of the late Mr. Russell Sage. Mr. Sage was a banker, who began life as a country lad, of humble origin, but who developed remarkable talents for business in whatever position he was placed. He came to New York after a successful career in a country town, having a very moderate fortune at his command. During the 50 years of his financial operations in this city he accumulated a fortune of upwards of $80,000,000, which he left at the disposal of his widow, a lady of education and refinement, without heirs. Her first considerable gift of this immense estate is $10,000,000 to create a "Russell Sage Foundation," the object of which is stated to be "the improvement of social and living conditions in the United States." The means to that end will include research, publication, education, the establishment and maintenance of charitable and beneficial activities, agencies, and institutions, and the aid of any such activities, agencies, and institutions already established. It is an interesting fact that the endowment of great national beneficences in this country by men of large wealth had its origin in the gift of Mr. George Peabody of London soon after our Civil war, to endow an organisation for the promotion of education in the Southern States. This was followed by the Carnegie foundation of $10,000,000 in aid of educational institutions, and, finally, by the Rockefeller Foundation of $32,000,000 for specific lines of national education and philanthropy. The "Russell Sage Foundation" is the first contribution by a single person of wealth towards the national betterment of the social and living conditions of the people.

Honours conferred on a Physician.

The Congress of the United States has passed a special Act, authorising the President to appoint Lieutenant and Assistant Surgeon James Carroll, U.S. Army, a Surgeon with the rank of Major. The President promptly complied. Dr. Carroll's special claim to the honour conferred upon him is due to his voluntary submission while with the army in Cuba to test in his own person the effect of the bite of a mosquito infected with yellow fever. The test was made on

August 27th, 1900; on August 31st, four days after the bite, he was taken sick and suffered a severe attack of the fever; he was confined strictly to bed until Sept. 13th and convalesced slowly, leaving Cuba on Oct. 9th on sick leave. Dr. Carroll was born in England in 1854 and came to the United States by the way of Canada and soon after enlisted in the army. He studied medicine while serving in the army, and on graduation, took a course of graduate work in pathology and bacteriology at Johns Hopkins Hospital. In 1893 he again entered the army service and became associated with Dr. Walter Reed and subsequently was detailed with Dr. Reed to study infectious diseases in the island of Cuba. It was in the course of these investigations that he submitted to the test of the infected mosquito. On returning from Cuba Dr. Carroll devoted his time to the study of the mosquito and was again detailed to continue investigations in Cuba. During this period he succeeded in procuring six more experimental cases of yellow fever, all of which recovered. In 1903 he demonstrated that the supposed protozoon parasites reported to have been found in yellow-fever infected mosquitoes were ordinary yeast cells. In the course of his work it was shown that the supposed cause of yellow fever described by Professor Sanarelli was closely related to the hog-cholera bacillus.

State of Legislation on Osteopathy.

The disciples of osteopathy show a persistency in their efforts to secure a legal standing and recognition worthy of a better cause. On Jan. 1st, 1907, 29 States had adopted some provision for the licensing of osteopaths. Of these, 11 had adopted amendments to the Medical Practice Act authorising existing State boards to examine and to license osteopaths. Three States have added an osteopath to the State board. In 11 States special osteopathic examining boards have been established. In three States osteopaths are exempt from the operation of medical practice laws. In one State they are allowed to pursue their calling after registration in the office of the county clerk. There are 20 States in which no osteopathic legislation has been secured, but in 12 osteopathic Bills are pending and in seven efforts are being made to amend existing Acts relating to osteopathy. It appears on close examination that all these efforts to secure legislation in so many States emanate from one central source, thus showing that the demand for the recognition of osteopathy by legislation is not among the people but has its origin and support in a single central organisation.

Council on Pharmacy and Chemistry of the American Medical Association.

The investigations by this council of the various advertised remedies are revealing the most astonishing frauds perpetrated upon the public by the manufacturers of these preparations. The most popular of these preparations are found to contain large quantities of alcohol. In a test case recently brought by the Commissioner of Excise it was decided that one of the most popular and widely advertised of these cure-all remedies was a beverage, instead of a medicine, owing to the fact that it contained 27 per cent. of alcohol and a small percentage of solids, not drugs. The justice proposed the following questions to the jury for decision—viz., 1. Is the preparation contained in the five bottles produced by the plaintiff, consisting of water, alcohol, and certain drugs, a proper remedy for the cure of Bright's disease, acute catarrh, chronic catarrh, diseases of the mucous membranes? 2. Was the quantity of alcohol, 26 or 27 per cent., contained in the preparation necessary to hold the drugs actually put therein in solution? 3. Was the quantity of drugs contained in one bottle of the alcohol, diluted with water, sufficient in amount in tablespoonful doses, three or four times a day, to produce any appreciable remedial effect? The jury answered the three questions in the negative. The decision was that the preparation is not a remedy for any disease but that it is so much a liquor that the sale should require a liquor tax certificate. Bright's disease and consumption being the diseases now most feared by the public most of these nostrums are advertised to cure kidney and lung diseases. One of the most famous of the kidney cures, whose manufacturer is now a multi-millionaire, was found to consist of ordinary white sugar alone.

A Suicide Bureau.

The Salvation Army has established in New York what is to be known as a "suicide bureau." The object of the managers is to give good advice and, where needed, to give material aid to those whose desperate circumstances have driven them to contemplate self-destruction. That such an organisation will be of great service is proved by the fact that 18 persons applied on the first day.

March 26th.

Obituary.

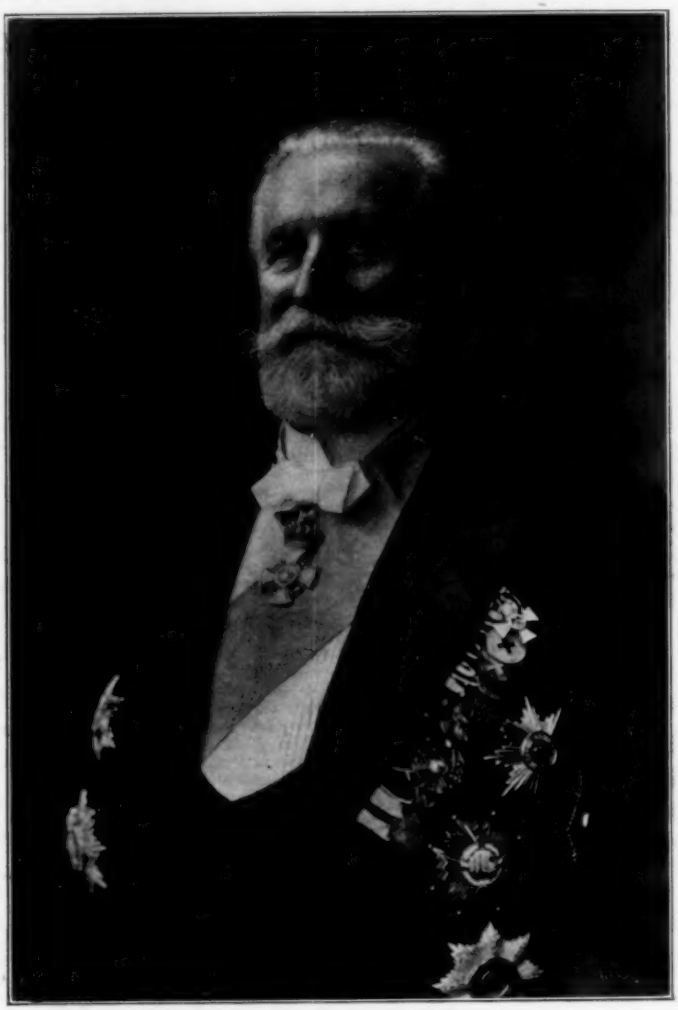
HIS EXCELLENCY ERNST VON BERGMANN.

PROFESSOR OF SURGERY IN THE UNIVERSITY OF BERLIN.

THE medical profession in general, and that of Germany in particular, has sustained a heavy loss by the death of His Excellency Professor von Bergmann, Real Privy Councillor, professor of clinical surgery and director of the surgical clinic of the Royal University, and surgeon-general *à la suite* of the German army. He is mourned alike by his professional brethren and by the public at large, for it may be said that of all the members of the Berlin medical faculty he was the most popular among every class of the population of the city. His death is the more felt by his friends because on the seventieth anniversary of his birthday, which was celebrated a few weeks ago, he was the recipient of many tokens of sincere esteem alike from his medical colleagues and his numerous patients and there then seemed no evidence of any illness or weakness. Only a very few of his most intimate friends knew that, notwithstanding his apparent health and vigour, Professor von Bergmann had been suffering for nearly three years from periodical attacks of severe abdominal pain and that he had himself made the diagnosis of cancer, although this opinion was not shared by his medical attendants. A fortnight ago, at the beginning of the Easter holidays, he went for treatment to Wiesbaden because of sciatic pains in the left hip and a general feeling of uneasiness caused, as he believed, by overwork last winter. At Wiesbaden he apparently recovered, but on March 23rd abdominal symptoms suddenly developed. The family at his request telegraphed to Professor Schlange of Hanover, one of his pupils and also a highly esteemed former assistant, who at once, together with Dr. Stein of Wiesbaden, performed colotomy under local anæsthesia, as the weakness of the patient's heart contra-indicated the administration of a general anæsthetic. The serious symptoms, however, continued after this operation, so that Professor von Bergmann insisted on a second one, which was accordingly performed on the morning of March 25th. A few hours afterwards collapse occurred and at 11 A.M. Professor von Bergmann breathed his last in presence of his family and of several of his former and present assistants who had gone to Wiesbaden on hearing of his illness. At the necropsy it was proved that the disease was not cancer but obstruction caused by old adhesions of the colon and suppurative peritonitis.

Professor von Bergmann was born in 1836 in Riga, the capital of the Russian Baltic provinces and the birthplace of not a few men who have attained eminence in various ways. He was the son of a clergyman of noble birth and had the intention of becoming a clergyman himself. After the completion of his preliminary studies at the gymnasium of Riga he presented himself for matriculation at the University of Dorpat as a student of theology, but was refused permission as the Emperor Nicholas, who at that time governed Russia, had ordered that the number of theological students in Dorpat should be limited according to the number of existing incumbencies, and when young Bergmann applied he found that there were no vacancies. A similar state of affairs existed in the Faculty of Jurisprudence, where he also sought for admission, and he was thus forced to matriculate in the Faculty of Medicine, where there were no restrictions on the number of students. It was thus by accident that the deceased became a medical student and that he ended his life, not as a clergyman in some remote town or village of the Russian Baltic provinces, but in Berlin as the world-renowned surgeon of the greatest German University.

After having completed with success his medical curriculum at the University he became qualified in 1860 and was then appointed an assistant in the surgical clinic, first under Professor von Oettingen and then under Professor Adelmann. In 1864 he obtained recognition as a *privat-docent*. In 1866 he took part as a volunteer surgeon



HIS EXCELLENCY PROFESSOR ERNST VON BERGMANN,
PROFESSOR OF SURGERY IN THE UNIVERSITY OF BERLIN.

with the Prussian forces in the war between Prussia and Austria and it was here that he gained his first experience of military surgery in the field. He was so deeply impressed by the non-success of surgical work at that time and by the frequent septic infection of wounds that he decided to study the nature of these infections, and after the war proceeded to Amsterdam as a pupil of Professor Kühne, the celebrated biologist. He had at first intended to devote himself entirely to theoretical medicine, but the Franco-German war in 1870 led him to change his plans. Having again offered his services to the German War Office as a volunteer surgeon, he became head of the reserve hospitals at Mannheim and at Carlsruhe respectively, and also made frequent journeys into France for the purpose of accompanying wounded soldiers returning to Germany by railway. The work accomplished by him during the war brought him so much reputation that in 1873 he was appointed ordinary professor at Dorpat. But the introduction of antiseptic methods consequent upon Lister's splendid and original work induced him to become a practising surgeon again and to abandon theoretical studies. He saw the enormous strides that surgery must take when treatment was organised upon the new scientific lines. When, in 1877, war broke out between Russia and Turkey he entered on his third campaign, this time as consulting surgeon to the Russian army of the Danube and was attached to the headquarters of the Commander-in-Chief, the Grand Duke Nicolai Nikolajawitsch. There he was able to apply Lister's methods on the battle field and in the field hospitals on a great scale. He, moreover, made the practical discovery that gunshot wounds are frequently aseptic and that they remain so provided they are not touched by a finger or a probe. Therefore, no operations were allowed by him to be performed in the dressing-stations or even in the field hospitals; all operations were postponed until they could be performed with antiseptic precautions save where profuse hæmorrhage or some other imminent danger precluded the delay. Simple occlusion of the wound was the normal proceeding and the results obtained by him were excellent compared with those of former years. These principles, which are now generally adopted and by the present generation may be regarded as mere truisms, were at that time a great departure from current methods. He published his results in two books, entitled respectively, "The Treatment of Gunshot Wounds of the Knee-joint in War" and "The Results of Resection of the Knee-joint in War Time."

His reputation had now become so high that in 1882 he was appointed professor of surgery at the University of Würzburg. Soon after he had left Dorpat, the University there, together with all the other similar institutions of the Baltic Provinces, was by order of the Russian Government deprived of its exclusively German character and rendered purely Russian. In Würzburg he remained until he was appointed ordinary professor of surgery in the University of Berlin in succession to the celebrated Professor von Langenbeck, and he held this position until his death. While in Berlin he formed the opinion that operations performed under aseptic conditions gave better results than the use of antiseptics, and he accordingly altogether abandoned the latter, substituting for them the sterilisation of all instruments and dressing materials used in clinical work. His methods were published by his assistant, the late Dr. Schimmelbusch, in a text-book which was translated into several languages. Apart from military surgery and aseptic operations in general the favourite subject of the deceased was the surgery of the brain, and he published a great work on the surgical treatment of its diseases. Other treatises from his pen dealt with pressure on the brain, wounds of the skull, diseases of the lymphatic glands, transfusion, &c. Together with Professor von Bruns of Tübingen and the late Professor von Mikulicz of Breslau he edited the "Handbook of Practical Surgery," of which the first edition appeared in 1900 and which is now in its third edition.

In 1887 Professor von Bergmann was called in attendance upon the Crown Prince Frederick of Germany who had been attacked with a serious throat affection which was diagnosed by his medical advisers as malignant. Preparations were made for the performance of thyrotomy by Professor von Bergmann, but at this juncture the patient was seen by Sir Morell Mackenzie who said that at so early a stage in the disease malignancy could not be asserted. In March, 1888, the Crown Prince became Emperor of Germany by the death of the Emperor William, and three months later he died from unquestioned cancer of the larynx. During the unseemly quarrel that then ensued between the unfortunate Emperor's medical advisers Professor von Bergmann's name became familiar to all Englishmen. The episode has no bearing upon his career and need not now be reopened, but to omit reference to it is impossible, while it may be added that in the bitter discussions which followed the Emperor's death the feeling of English medical men was almost solidly upon the side of their German *confrère*.

In addition to being an eminent surgeon and teacher Professor von Bergmann took a great interest in all that concerned the welfare of the medical profession. Notwithstanding his enormous private practice and his work in the university clinic, he was unwearied in his endeavours to raise the standard of current medical knowledge. He was of opinion that it was essential for practitioners to keep abreast of the progress of medicine and he therefore supported with great energy the cause of post-graduate study. He became president of the Association for Post-graduate Study, which in accordance with his advice provided lectures and courses free of charge for practising medical men in all the German universities and in the leading hospitals. As president of the First Aid Society he also reformed the first aid service in Berlin by introducing dressing stations in the hospitals and model ambulance vehicles for the conveyance of injured persons. In recognition of his exertions on behalf of his professional brethren he was elected a member of the Berlin Medical Chamber, the official representative body of the Berlin medical profession, whose meetings he scarcely ever failed to attend. He was also the president, and since the seventieth anniversary of his birthday the honorary president, of the Berlin Medical Society. Many honours were conferred on him by the Emperor and the Government, some of which are mentioned at the beginning of the present memoir. In addition to possessing the title of Excellency, he was a Member of the Prussian House of Lords and knight of the highest Prussian, German, and foreign orders. With the English medical profession he was connected as an honorary Fellow of the Royal College of Surgeons of England, a distinction which was conferred on him in 1900 on the occasion of the centenary of this College. As he was an excellent speaker whose language was eloquent and full of ideas and who by his voice was able to fascinate a meeting, he was chosen, as on many other occasions, as the representative speaker of the German Fellows of the College, and the few, but beautiful, words of thanks spoken by him before the centenary meeting may be found in THE LANCET of August 4th, 1900, p. 339. An obituary of the deceased would not be complete without mentioning his great kindness to his patients, especially to the poor. He was extremely generous in matters concerning fees, and on his death many instances were made public where he had not only operated free of charge upon people unable to pay but had also cared for them during their convalescence, providing them with wines and suitable food. When his death became known in Berlin the mourning was general and sincere in every class of the population.

The funeral of Professor von Bergmann took place on Good Friday. The corpse lay in state in the great hall of the Langenbeck House. The service began at 2 P.M. in the presence of the Crown Prince, representing the Emperor, and of Princess Friedrich Leopold, representing the Empress. The Government was represented by the Minister of Education and the War Minister. Representatives of the city, the medical faculties of Berlin, Wurzburg, and Dorpat, of the Army Medical Corps, and of various medical and other associations, were also present and deposited wreaths and made short speeches. After the service the corpse was brought in procession to the Potsdam station and by rail to Potsdam, where the burial took place.

JULIAN CRAIG FLEMING, L.R.C.P. LOND., M.R.C.S. ENG.

Mr. J. C. Fleming, the medical superintendent of the Devon and Cornwall Sanatorium for Consumptives, died at the Bungalow, Didworthy, South Brent, Devon, on March 24th, from pneumonia, after a very short illness. The deceased, who was only 30 years of age at the time of his death, was the fourth son of Mr. James Fleming of Hampstead. Mr. Fleming had formerly been at Nordrach-upon-Mendip Sanatorium, where he recovered

from an attack of pulmonary tuberculosis and had also held an appointment at the Cotswold Sanatorium. He was appointed medical superintendent of the Devon and Cornwall Sanatorium about two years ago. Mr. Fleming was extremely popular and was much liked by the patients for his kindness and consideration. He was a good sportsman and hunted regularly with the Dartmoor hounds. Mr. Fleming was married two years ago and leaves a widow and one child. The funeral, which took place at Brent parish church on March 27th, was largely attended, amongst those present being many members of the medical profession from Plymouth.

Medical News.

UNIVERSITY OF LIVERPOOL.—At examinations held in March the following candidates were successful:—

DEGREES OF M.B. AND CH.B.

Second Examination.—Part A: L. S. Ashcroft, K. J. C. Bradshaw, L. Buckley, A. G. W. Owen, J. A. Parkes, J. F. Roberts, and N. W. Steinberg.—Part B: S. P. Sykes.
Final Examination.—Part II.: G. W. N. Joseph (Second Class Honours).

DEGREE OF B.D.S.

Third Examination.—H. Chapman.
Final Examination.—E. L. Councell.

DIPLOMA IN TROPICAL MEDICINE.

A. Bond, M. H. G. Fell, R. H. Kennan, W. H. Kenrick, G. E. H. Le Fanu, and H. Vallance.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in March the following candidates passed in the subjects indicated:—

FINAL EXAMINATION.

Part I.—J. A. Bateman, T. B. Bolton, W. C. Denniston, T. E. Dickinson, Edward Gandy, Frances M. Huxley, E. K. Lomas, S. S. Mahamadi, W. P. Marshall, W. W. Martin, John Morley, J. H. Nichol, M. C. Skillern-Lawrance, W. W. Stacey, John Thompson, R. B. Thompson, B. W. E. Trevor-Roper, W. W. Uttley, T. G. Williams, and A. E. Woodall.
Part II.—T. G. Burnett, Jane A. Fleming, S. H. Gandhi, J. T. B. Hall, W. H. Judson, W. P. Moffet, F. R. Parakh, J. B. Macalpine, W. H. Ross, and Harold Spurway.

The following candidates satisfied the examiners in the subjects of forensic medicine and public health:—

J. W. Bride, J. F. Dow, J. A. Fairer, Frank Hartley, Robert Lakin, S. E. McClatchey, J. L. Moir, Peter Moran, Wilfrid Nightingale, Alice Obenlorfer, Robert Robertson, Elsie M. Royle, G. B. Warburton, and Henry Whitehead.

SECOND EXAMINATION.

A. Anatomy and Physiology.—H. E. Allanson, D. I. Connolly, F. H. Diggle, John Gow, T. T. Higgins, R. A. Jackson, N. T. K. Jordan, Niel McDonald, Edith M. Marsden, C. B. Marshall, G. E. E. Nicholls, Cedric Pimblett, Harry Platt, Alexander Porter, James Ramsbottom, A. A. Smalley, Norman Tattersall, R. H. Titcombe, and J. F. Ward.
Anatomy.—R. J. Batty.
B. Materia Medica and Pharmacy.—Estelle I. E. Atkinson, G. M. Benton, J. F. Cocker, Gertrude H. Geller, and F. G. Wrigley.

FIRST EXAMINATION (NEW REGULATIONS).

Materia Medica and Pharmacy.—G. S. Bate and W. J. A. Quine.

FACULTY OF DENTISTRY.

Third B.D.S. Examination.—Arnold Renshaw.
Third L.D.S. Examination.—J. L. Reynolds and Albert Torkington.

THE annual general meeting of the Association of Medical Men receiving Resident Patients was held at 8, Henrietta-street, Covent Garden, London, on March 27th. Dr. D. Walsh, the President, was in the chair and nine members were present. The minutes of the previous annual meeting having been read and confirmed the honorary secretary read a statement describing the position and progress of the association, which gave rise to an interesting discussion. The following motions were then unanimously agreed to:—

1. That there shall be one honorary secretary (who shall also be honorary treasurer) resident in London who shall be empowered to spend a small sum yearly out of the association's funds for assistance in purely clerical work. He shall be supported by a committee of 12 members, four to form a quorum, who shall meet at least twice a year. One of the meetings shall be at the end of the financial year for the purpose of preparing the annual report and passing the statement of accounts. The committee shall consist of London and country members, who shall be elected by the annual general meeting; they shall have power to elect their own chairman, who shall have a casting vote; they shall also have power to fill any vacancies which may occur during their year of office.
2. That any eligible medical practitioner wishing to join the association subsequently to August 31st in any year shall pay the usual entrance fee of one guinea and 5s. as subscription for the remainder of the financial year.

Dr. Walsh was unanimously re-elected President. Dr. H. Biss was unanimously appointed honorary secretary and honorary treasurer. Dr. G. E. R. Crallan's name was added to the list of vice-presidents and he was accorded a vote of thanks for his services as honorary secretary and honorary treasurer to the association since its formation in 1899.

ON March 26th, Mr. William Henry Waterfield, L.R.C.P., L.R.C.S. Irel., was returned for the third time at the head of the poll for the Stonehouse (Devon) board of guardians.

LONDON COUNTY COUNCIL: SCHOLARSHIPS FOR STUDENTS OF MIDWIFERY.—In July, 1907, the London County Council will proceed to award not more than six scholarships to students in midwifery. Candidates must be ordinarily resident within the county of London and must be between 24 and 40 years of age on July 31st, 1907. The value of each scholarship will be £25 and the course of training will extend over a period of six months. Forms of application may be obtained from the executive officer, Education Offices, Victoria Embankment, W.C., and must be returned to the same address not later than Saturday, April 20th, 1907. Further information may also be obtained on application to this address.

LITERARY INTELLIGENCE.—Messrs. W. B. Saunders Company will publish almost immediately a new work on gynæcology and abdominal surgery edited by Howard A. Kelly, M.D., and Charles P. Noble, M.D. In view of the intimate association of gynæcology with abdominal surgery the editors have combined these two subjects in one work. The operations and procedures described in the text are illustrated by some 650 original illustrations, the work of Max Brodel and Hermann Becker of the Johns Hopkins Hospital, Baltimore.—Messrs. Putnam's Sons will publish early next week a translation from the German of Dr. J. Starke's treatise on "Alcohol: The Sanction for its Use Scientifically Established and Popularly Expounded by a Physiologist."

UNIVERSITY OF LIVERPOOL.—The newly created chair of cytology has been filled, Mr. John Edmond Salvin Moore having been elected to the post by the Council of the University. Mr. J. E. S. Moore has had a distinguished academic career and since the year 1905 has been director of the cancer research laboratories at the University. He has been leader of two research expeditions to Tanganyika, and amongst other works he is the author of a publication entitled "Exploration and General Zoology."—The Council of the University, on the recommendations of the Senate and the Medical Faculty, has elected Mr. Courtney Yorke to the Holt Fellowship in Physiology and Pathology and Dr. F. A. G. Jeans to the Scholarship in Surgical Pathology.

THE SOCIETY OF ARTS.—The lecture arrangements for meetings during April and May include the Cantor lectures on April 15th, 22nd, and 29th by Professor Herbert Jackson, F.I.C., F.C.S., his subject being Detergents and Bleaching Agents used in Laundry Work; on April 24th Mr. Herbert Wright, Controller of the Government Experimental Station, Ceylon, will read a paper on Rubber Cultivation in the British Empire; on May 8th Mr. Paul Schlicht will discuss the Production of Coke and its Application to Domestic Fires; on May 15th Dr. Herbert W. G. Macleod will take for his subject Trypanosomiasis or Sleeping Sickness; and on May 30th Mr. Laurence Robertson, I.C.S., will discourse on Irrigation Colonies in India. With the exception of the last-mentioned lecture, which will be delivered at 4.30, the lecture hour in all cases is 8 P.M.

DEPLORABLE MEDICAL POSITION AT NOVO NIKOLAIEVSK.—The Governor-General of Tomsk, Baron Nolken, says the local correspondent of the *Novoe Vremya*, has gone to St. Petersburg to report on the tragical situation of Novo Nikolaievsk. He was accompanied by a representative deputation from the distressed town which numbers 45,000 inhabitants. Referring to the medical position, our Russian contemporary says that the morgue is a place seven feet square, covered with filth, without any usual accessories. In the summer the necropsies are carried out in the open air. The blood drops to the ground and the viscera are buried there. Then the town pigs come and scratch them up. The medical staff is small and overpowered with work. The hospitals are in a frightful condition and do not afford a

tenth of the required accommodation. Infectious and common cases are huddled together in one ward and often on the floor. In some there is no surgical department and surgical cases have to be taken several versts to a "transfer hospital."

A NEW ISOLATION HOSPITAL.—The new isolation hospital for the Merthyr Tydvil borough council was formally opened on March 30th. The hospital, which has been built about a mile from the centre of the town, has been erected at a cost of £13,500 and provides accommodation for 30 patients.

MEDICAL MAGISTRATES.—Mr. W. Black Jones, M.D., B.S. Lond., D.P.H., of Llangammarch Wells, has been placed on the commission of the peace for Brecknockshire.—Mr. Alfred H. Carter, M.D. Lond., F.R.C.P. Lond., professor of medicine in the University of Birmingham, has been placed on the commission of the peace for the county of Worcester.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Progress of Bills.

THE House of Commons adjourned for the Easter recess on March 27th when the first of the three parts into which the Parliamentary session divides itself was over. Since the House met in February nearly 150 Bills have been introduced, but the vast majority of them have not yet reached a second reading. Amongst the Bills which still await the second reading stage are the Advertisements Regulation Bill, the Butter and Margarine Bill, the Coroners Bill, the Coroners' Inquests (Railway Fatalities) Bill, the Dogs (Injuries to Persons) Bill, the Education (Administrative Provisions) Bill, the Education (Scotland) Bill, the Housing of the Working Classes Acts Amendment Bill, the Infant Life Protection Bill, the Nurses Registration Bill, the Parochial Medical Officers (Scotland) Bill, the Education of Afflicted Children (Ireland) Bill, the Pharmacy Bill, the Poisons and Pharmacy Bill, the Municipal Milk Depôts Bill, the Prevention of Cruelty to Children Bill, the Public Health Bill (Mr. J. W. WILSON'S measure), the Public Health Officers Bill, the Public Health (Regulations as to Food) Bill, the Released Persons (Poor-law Relief) Bill, and the Sale of Whisky Bill. Most of these measures, owing to the restrictions placed by the rules of the House on the opportunities for the advancement of private Members' Bills, will probably not even get a second reading this session. A few of them, including the Butter and Margarine Bill, the Education (Administrative Provisions) Bill, the Education (Scotland) Bill, the Municipal Milk Depôts Bill, the Poisons and Pharmacy Bill, the Public Health (Regulations as to Food) Bill, and the Released Persons (Poor-law Relief) Bill stand as Government measures in a different category. Some of them are to be pressed forward soon after the House reassembles, and the Government has it in its power to allocate to their advancement such of the time at its disposition as may seem necessary. Amongst the few private Members' Bills which have got beyond the second reading stage are the Education Acts Amendment Bill and the Education (Provision of Meals) (Scotland) Bill. The former has passed through committee, the latter awaits consideration by the Standing Committee on Trade.

The Municipal Milk Depôts Bill.

The text of the Bill introduced in the House of Commons by the President of the Local Government Board "to authorise and regulate the establishment of milk depôts by certain local authorities" has been issued. Under it the Common Council of the City of London, or the council of any metropolitan or municipal borough or urban district in England with a population of 50,000 or upwards, "may, subject to regulations, establish and thereafter maintain depôts for the sale of milk specially prepared for consumption by infants under two years of age, and purchase and prepare milk and provide such laboratories, plant, and other things, and exercise and perform such other powers and duties, as may be necessary for the purposes of this Act." If the council of a borough or urban district containing a population above 10,000 but below 50,000 obtains the consent of the Local Government Board it may put this provision of the Bill in force within its area. The Local Government Board is given power to make regulations as to the sources of the milk, as to its nature, and as to the manner in which, and the conditions under which, it is to be purchased, conveyed, and sold. The regulations may include provisions as to the classes of persons to be supplied and as to the visitation of their homes.

Public Health Officers.

Sir WALTER FOSTER'S Bill to amend the law relating to the qualification and tenure of office of medical officers of health and sanitary inspectors has just been printed. The measure is backed by Sir FRANCIS POWELL, Sir JOHN BATTY TUKE, and Mr. RAINY. The main objects of this Bill are to secure that none but those properly qualified shall be appointed as medical officers of health or sanitary inspectors, and to give them security in their tenure of office similar to that enjoyed by Poor-law medical officers and metropolitan medical officers of health. The first clause of the Bill lays down that no one shall after Sept. 29th, 1909, be appointed a medical officer of health unless he is a duly qualified medical practitioner, and unless either (*a*) he is registered on the Medical Register as the holder of a diploma in sanitary science, public health, or State medicine under Section 21 of the Medical Act, 1886; or (*b*) he has for three consecutive years before the commencement of this Act served as a medical officer of health of a district or combination of districts with a population, according to the last published census, of not less than 50,000; or (*c*) the Local Government Board consents to his appointment

Under Clause 2 of the Bill a medical officer of health or sanitary inspector shall not hold office or be appointed for a limited period only, and he shall be removeable only subject to an appeal to the Local Government Board. This provision is to apply to every medical officer of health or sanitary inspector, notwithstanding any contract to the contrary. By the terms of the Bill an urban authority will have the power to appoint two or more sanitary inspectors. It is not proposed to extend the Bill to Scotland or Ireland.

The Housing of the Working Classes Acts Amendment Bill.

A clause in Sir WALTER FOSTER'S Housing of the Working Classes Acts Amendment Bill places a new power in the hands of medical officers of health. Under it, it shall be the duty of the medical officer of health of every rural district to represent to the council of that district cases where danger arises to the health of the inhabitants of any portion of it from the insufficiency or unwholesomeness of the existing supply of housing for the working classes. It is further laid down that if four or more householders in a parish or other affected area complain in writing of such a danger to the medical officer of health it shall be his duty to make an inspection of the houses and to transmit the complaint along with his observations to the district council. The rural district councils must then take the matter into consideration. For rural district councils which adopt the measure an elaborate procedure is laid down as to the purchase and hiring of land and the erection of houses. Certain clauses of the Bill deal with cases where rural district councils do not adopt its provisions.

Medical Examination of School Children in Scotland.

Mr. SINCLAIR, in introducing the Education (Scotland) Bill, mentioned that it would make provision for the medical examination of children. The text of the Bill, which was published on the day after the House of Commons rose for the Easter holidays, now shows the terms of the proposal of the Government. Clause 4 lays down that a school board may on its own initiative (or where required by the Education Department shall) provide for the medical examination and supervision of children attending schools under its charge, under provisions prescribed from time to time by any code or minute of the department. For this purpose the school board may appoint such medical inspectors as may be necessary.

Dogs (Injuries to Persons) Bill.

Mr. DUNDAS WHITE'S Bill to amend the law relating to injuries to persons by dogs has the support of Mr. CROMBIE, Dr. SHIPMAN, Lord ROBERT CECIL, Sir JOHN JARDINE, Mr. T. F. RICHARDS, Mr. ARNOLD HERBERT, and Mr. MOLTENO. As the law now stands a person who is injured by a dog cannot recover damages from the owner of the dog unless, in addition to proving the damage, he can also prove the "scienter," that the dog was known to be dangerous. This frequently debars the injured person from a remedy. The Bill is designed to place the risk on the owner of the dog, who can control its movements, instead of on the injured person who cannot, with a view to making dog owners more careful, and so not only securing compensation for, but also obviating, such injuries.

The Accounts of the General Medical Council.

The accounts of the General Medical Council and branch councils and of the Dental Registration Fund for 1906 have been presented to Parliament.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 27TH.

The Inspection of Vivisection Experiments.

Mr. SMEATON asked the Secretary of State for the Home Department what were the salaries paid to the English inspectors of vivisection, Mr. Thane and Sir James Russell; whether out of 2506 operation experiments made last year, only 15 were witnessed by the senior inspector; whether the Home Office granted vivisection licences on the recommendation of the Research Association; and whether this association existed for the protection and promotion of vivisection.—Mr. GLADSTONE said, in reply: The remuneration of the inspector under the Cruelty to Animals Act, 1876, is 500 guineas, and that of the assistant inspector is 350 guineas. The number of operation experiments witnessed by Mr. Thane in 1905 was 15. The number was smaller than usual in consequence of the inspector being absent on sick leave for some weeks. Among the objects of the Association for the Advancement of Medicine by Research are the protection of the interests of

licensees and the publication of literature on the importance of research. Applications for licences and new certificates are sent to the association for observations; but the Secretary of State forms his own opinion in each case after considering the reports of his own expert advisers, and the responsibility rests with him.

Military Doctors and Civilian Casualties.

Mr. MARNHAM asked the Secretary of State for War whether his attention had been called to a serious, and afterwards fatal, accident to the driver of a London and South-Western Railway motor train near Bentley Station on Feb. 28th, when the injured man was taken by train to Bordon Camp, with a view to his receiving the assistance of the military doctor there; whether he was aware that the latter refused to attend to the man; whether there were any restrictions in the Army Regulations which prevented military officers from attending to civilian casualties such as the one referred to; and, if so, would he take steps to have such restrictions forthwith removed.—Mr. HALDANE answered: I have made inquiries into this matter. It appears that the military medical officer concerned was not asked to attend to the man. There are no restrictions placed on military medical officers against rendering immediate assistance in civil cases, nor to the admission into military hospitals of cases requiring surgical attendance the result of serious accidents in the immediate vicinity.

Vivisection Experiments.

Answering Mr. SMEATON, Mr. GLADSTONE said that he hoped the return of the vivisection experiments performed during the past year would be issued during May.

Illness and Vaccination.

Mr. LUPTON asked the President of the Local Government Board whether Dr Fletcher was paid for reporting on cases of illness following vaccination; whether formerly similar reports were published; and on what ground of public policy such reports were kept secret notwithstanding the wish of the parents for publicity.—Mr. JOHN BURNS replied: Dr. Fletcher is one of the medical inspectors of the Local Government Board and is paid an annual salary for the discharge of his duties, which, like those of other medical inspectors, include the occasional investigation of cases of illness alleged to be due to vaccination. Some of the reports of the inspectors were communicated to the Royal Commission on Vaccination and the facts contained in certain of these reports were published by them, but since the final report of the Commission no further reports of the kind in question have been published. The reports of necessity often deal with the acts of family history of individuals and must, I think, be treated as confidential.

Whooping-cough at Norwood.

Mr. LEWIS HASLAM asked the President of the Local Government Board whether he would state how many children in the Lambeth Poor-law school at Norwood had been, and were at present, affected by the recent outbreak at that school of diphtheria, scarlet fever, and whooping cough respectively; and whether any cases had as yet been fatal.—Mr. BURNS said in reply: My honourable friend is, I think, under a misapprehension in this matter. I understand that with the exception of six mild cases of whooping-cough, five of whom are convalescent, there has been no recent outbreak of the diseases mentioned in the question at the school, nor has there been any death from them. At present there is not a single case of diphtheria or scarlet fever in the school.

Pot-still and Patent-still Whiskies.

Mr. H. C. LEA asked the Chancellor of the Exchequer whether the Inland Revenue officials did not discriminate in their accounts between pot-still and patent-still whisky, the distilleries being in almost all cases distinct; and whether, in view of the importance to the wholesale spirit trade in this country that this information should be given to the public, he could state the quantities of pot-still and patent-still whiskies produced in England, Ireland, and Scotland in the years 1896, 1896, and 1906 respectively; and, if it was impossible to furnish this information for the past, would he issue orders for the facts to be ascertained and circulated in future.—Mr. ASQUITH said: No discrimination is at present made between pot-still and patent-still spirit and consequently no departmental records exist from which a return of the kind named could be made for past years. If legislative authority were given, it would be possible for the department to keep a record in the future of the quantities of spirit distilled by pot stills and patent stills respectively; but such a record would afford no evidence of the relative quantities used for potable and other purposes. Still less would it afford evidence of the relative quantities used for a particular spirit, such as whisky and other potable spirits, for the total product of patent stills is applied only partly to the purposes of "drinking" spirits, and the distribution of such part as is so applied between the several classes of potable spirits, gin, whisky, compounds, &c., cannot be determined.

Tests for Colour Blindness.

Mr. HENNIKER HEATON asked the President of the Board of Trade whether he had any official information showing that the tests for colour blindness adopted by the Board of Trade were efficient.—Mr. LLOYD GEORGE (in a written answer) replied: I can only say that the colour tests for the Mercantile Marine were adopted on the advice of a committee of the Royal Society of the highest eminence, and that the Board of Trade has no reason to doubt their efficiency.

A Death from Privation.

Mr. SUMMERBELL asked the Secretary of State for the Home Department whether his attention had been called to the case of Ellen Simpson, who was shown at the inquest held as to her death at Stepney on March 16th last to have died from heart failure accelerated by want; and, if so, whether any relieving officer or other officer of the Stepney guardians was present at the inquest; and at what date would particulars of this inquest be sent to the Local Government Board by the Home Office.—Mr. GLADSTONE (in a written answer) replied: I understand that the deceased and her sister had been refused outdoor relief and that they declined to go into the workhouse. They appear to have been unable to look after themselves. No relieving officer was examined at the inquest; the woman had been in the district only a few days and no relieving officer unfortunately knew anything of the case. Particulars of deaths from starvation or deaths accelerated by privation in 1907 will be furnished about March next and sent to the Local Government Board. I am bringing the case to the notice of the Local Government Board.

Housing in Roscrea.

In answer to Mr. KENDAL O'BRIEN, Mr. BIRRELL, in a written reply, stated that the Irish Local Government Board had received no application from the Roscrea rural district council for carrying out a housing scheme under the Housing of the Working Classes Act, 1890. Rural district councils could only exercise the powers under Part II. of the Act which related primarily to the closing and demolition of buildings unfit for human habitation and to the removal of obstructive buildings.

Sewage Disposal.

Sir FREDERICK BANBURY asked the President of the Local Government Board whether it was the intention of the Government to introduce a Bill dealing with the recommendations of the Royal Commission on Sewage Disposal.—Mr. JOHN BURNS (by written answer) replied: The matter is under consideration but I cannot make any announcement with regard to it at the present moment.

BOOKS, ETC., RECEIVED.

FISCHER, GUSTAV, Jena.

Die Bakteriologie in der Augenheilkunde. Von Dr. Theodor Axenfeld, o.ö. Professor der Augenheilkunde in Freiburg. Price M.12; geb., M.13.

Das Dysenterietoxin. Von Dr. Robert Doerr, K. und K. Regimentsarzt. Price M.2.50.

Lehrbuch der Inneren Medizin. Herausgegeben von Dr. J. v. Mering, o.ö. Professor der Speziellen Pathologie und Therapie und Direktor der Medizinischen Universitätsklinik in Halle. Vierte teilweise umgearbeitete Auflage. Price of the complete work (2 volumes), M.12.50; bound, M.15.

FORDHAM UNIVERSITY PRESS, New York.

Makers of Modern Medicine. By James J. Walsh, M.D., Ph.D., LL.D., Acting Dean and Professor of the History of Medicine and of Nervous Diseases, Fordham University Medical School, and Adjunct Professor of Medicine at the New York Polyclinic School for Graduates in Medicine; Professor of Physiological Psychology at St. Francis Xavier's College in New York. Price $2.00 net.

FUNK AND WAGNALLS COMPANY, New York and London.

The Psychic Riddle. By Isaac K. Funk, D.D., LL.D., Editor-in-Chief of the "Standard Dictionary," author of "The Next Step in Evolution," &c. Price $1.00 net.

HEATH, D. C., AND COMPANY, Boston, U.S.A., and 15, York-street, Covent Garden, London, W.C.

Manual of Clinical Chemistry. By A. E. Austin, A.B., M.D., Professor of Medical Chemistry and Toxicology in the Medical Department of Tuft's College, Boston. Price 5s.

LEHMANN, J. F., Heustrasse, 20, München.

Lehmann's Medizin. Handatlanten. Band XXXV. Atlas und Grundriss der Embryologie der Wirbeltiere und des Menschen. Von Dr. Alexander Gurwitsch, St. Petersburg, früher Privatdozent in Bern. Price M.12.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

The World Machine: The First Phase; The Cosmic Mechanism. By Carl Snyder. Price 9s. net.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

The Nervous System of Vertebrates. By J. B. Johnston, Ph.D., Professor of Zoology in West Virginia University. Price 15s. net.

NISBET, JAMES AND CO., LIMITED, 21, Berners-street, London, W.

Gall-stones and Diseases of the Bile-ducts. By J. Bland-Sutton, F.R.C.S. Eng., Surgeon and Lecturer on Surgery to the Middlesex Hospital, &c. Price 3s. 6d. net.

SCHOETZ, RICHARD, Wilhelmstrasse, 10, Berlin, S.W.

Die Bekämpfung der Tuberkulose innerhalb der Stadt. Ein Beitrag zur Wohnungsfrage. Erfahrungen aus den Berliner Auskunfts- und Fürsorgestellen für Lungenkranke. Von Ernst Pütter, Geheimem Regierungsrat, Verwaltungs-Direktor der Königlichen Charité, Vorsitzendem des Central-Komitees der Auskunfts- und Fürsorgestellen für Lungenkranke in Berlin und Vororten. Price Pf.60.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Étude Expérimentale de la Pleurésie Séro-fibrineuse tuberculeuse. Par M. le Docteur P. Cartier. (Travail du Laboratoire de M. le Pr. Debove à l'Hôpital Beaujon.) Price not stated.

Précis de Pathologie Interne. Par MM. Balthazard, Castan, H. Claude, Macaigne, Nicolas et Verger, Agrégés des Facultés de Médecine. Secrétaire de la Rédaction: M. Balthazard. Préface de M. le Professeur Bouchard. Tome I., Maladies Infectieuses (Nicolas); Intoxications (Balthazard). Tome II., Nutrition, Sang (Balthazard); Cœur, Poumons (Macaigne). Tome III., Tube Digestif, Péritoine, Pancréas (Balthazard); Foie, Reins, Capsules Surrénales (Claude). Tome IV., Système Nerveux (Castan et Verger). Prix de l'ouvrage complet en 4 volumes cartonnés, Fr.32.

Traité de Médecine Opératoire et de Thérapeutique Chirurgicale. Publié sous la Direction de Paul Berger et Henri Hartmann. Les Autoplasties: Lèvres, Joues, Oreilles, Tronc, Membres. Par Ch. Nélaton, Agrégé à la Faculté de Médicine, Chirugien de l'Hôpital Boucicaut et L. Ombredanne, Ancien Prosecteur de la Faculté, Chirurgien des Hôpitaux. Price Fr.10.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.

ALLAN, JOHN, M.B., Ch.B. Edin., has been appointed Senior House Surgeon to the Walsall and District Hospital, Walsall.

CAPES, ROBERT, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer to the Camberwell Provident Dispensary.

DRAKE, JOHN ALEXANDER, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Consulting Physician to the Pembroke and District Infirmary.

ELDER, EDWARD A., B.Sc., M.B., Ch.B. Edin., has been appointed Senior House Surgeon at the Blackburn and East Lancashire Infirmary.

HAMILL, J. M., M.B., B.Sc. Lond., has been appointed an Assistant Inspector of Foods in the Medical Department of the Local Government Board.

HAYWARD, W. CURLING, M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Principal Medical Officer and Director of the Egyptian Government Hospital, Port Said.

HOSFORD, ALFRED STROUD, M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer to the Royal Hospital for Diseases of the Chest, City-road, E.C.

MELLISH, J. S., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Tetbury District of the county of Gloucester.

NETTLE, WILLIAM, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for Liskeard (Cornwall).

PEREIRA, J. A. WENCESLAUS, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Exeter Dispensary.

PLOWRIGHT, CHARLES T. MACL., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been elected Honorary Surgeon to the West Norfolk and Lynn Hospital.

POPE, H. S., M.B., B.C. Cantab., has been re-appointed Medical Officer to the Bridgwater Union.

POSTLETHWAITE, JOSEPH M., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon at the Blackburn and East Lancashire Infirmary.

PULLIN, BINGLEY GIBBES, M.R.C.S., L.S.A., has been appointed Medical Officer for Sidmouth (Devon).

RICHARDS, S. H., M.B., C.M. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

SAYRES, A. W. FORTESCUE, M.D. Brux., L.R.C.P. Lond., M.R.C.S., D.P.H. Lond., has been appointed Surgeon to the Exeter Dispensary.

SCOTT, SYDNEY R., M.B., M.S. Lond., F.R.C.S. Eng., has been appointed Aural Surgeon to the Evelina Hospital for Sick Children.

SMITH, S. MAYNARD, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Victoria Hospital for Children.

TRIPP, B. H. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Southwold District of the county of Suffolk.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—Junior House Surgeon. Salary at rate of £75 per annum, with board, attendance, washing, &c.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM, QUEEN'S HOSPITAL.—Second Physician for Out-patients and Pathologist. Salary £100 per annum.

BIRMINGHAM, UNIVERSITY OF.—Junior Assistant, Pathological Department. Salary £50 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £140 a year, rising to £160, with rooms, rations, laundry, and attendance.

BOURNEMOUTH, ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House Surgeon. Salary £30 per annum, with board, lodging, and washing.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Honorary Assistant Anæsthetist.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £60 a year, with board, apartments, and laundress.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—Assistant Surgeon.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—House Surgeon. Salary £120 per annum, with board, apartments, and washing.

FIFE DISTRICT ASYLUM, Cupar-Fife.—Junior Assistant Medical Officer. Salary £120 per annum, with rooms, board, and attendance.

GLOUCESTER, GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon. Salary at rate of £30 per annum, with board, residence, and washing. Also Assistant Surgeon on the Acting Medical Staff.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—House Physician. Salary £100 per annum, with apartments, board, and washing.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £60 per annum.

HUDDERSFIELD INFIRMARY.—Senior Assistant and Junior Assistant House Surgeon. Salaries £80 and £60 respectively per annum, with board, rooms, and washing.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Assistant House Surgeon. Salary £75 per annum, with residence, board, and washing.

LEICESTERSHIRE AND RUTLAND ASYLUM, Leicester.—Second Assistant Medical Officer, unmarried. Salary £130, rising to £160, with apartments, board, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £60, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Dental Surgeon. Also Medical Officer in Charge of the Electrical Department. Salary £52 10s. per annum.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per year, with residence, board, and washing.

NATIONAL DENTAL HOSPITAL, Great Portland-street, W.—Anæsthetist.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Assistant Ophthalmic Surgeon.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Director for the Bacteriological Laboratory. Salary £100 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with apartments, board, washing, and attendance.

OXFORD, UNIVERSITY OF.—Phillip Walker Studentship in Pathology. Value £200 and tenable for three years.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, for six months. Salary at rate of 50 guineas per annum, with board and residence.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—House Physician. Salary £50 per annum, with board, residence, and laundry.

PORTSMOUTH AND SOUTH HANTS EYE AND EAR INFIRMARY, Pembroke-road, Portsmouth.—Honorary Assistant Ophthalmic Surgeon.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

ROYAL DENTAL HOSPITAL, Leicester-square, London, W.C.—Honorary Curator of the Museum.

ROYAL EYE HOSPITAL, Southwark, S.E.—House Surgeon. Salary £52 10s. per annum, with board and residence.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Resident House Physician, Resident House Surgeon, House Physician, and Casualty House Surgeon.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street.—Resident House Surgeon. Salary £200 per annum, including allowances.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with apartments, rations, and allowances. Also Resident Assistant Medical Officer. Salary £80 per annum, with apartments, rations, and allowances.

TORQUAY, TORBAY HOSPITAL.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Assistant Surgeon.

WAKEFIELD, WEST RIDING ASYLUM.—Pathologist and Assistant Medical Officer. Salary £140, with board, apartments, washing, and attendance. Also Clinical Assistant. Salary £80 per annum, with board, apartments, washing, and attendance.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer, unmarried. Salary £150, per annum, with apartments, board, attendance, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Ophthalmic Surgeon.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £65, rising to £75, with board, residence, &c.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, lodging, and laundry. Also Second House Physician. Salary £80 per annum, with board, lodging, and laundry.

WREXHAM INFIRMARY.—Resident Medical Officer. Salary £80 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Llanwrtyd Wells, in the county of Brecknock.

Births, Marriages, and Deaths.

BIRTHS.

UNDERHILL.—On March 27th, at San Remo, Herne Hill, the wife of Thomas Hill Underhill, M.B., M.Ch., of a daughter.

UPCOTT.—On March 27th, at Leeds, the wife of Harold Upcott, F.R.C.S., of a son.

MARRIAGE.

MARJORIBANKS–SIMCOX.—On March 14th, at St. Thomas' Cathedral, Bombay, Captain J. L. Marjoribanks, I.M.S., to Elisabeth Homphray, daughter of the late Rev. H. K. Simcox.

DEATHS.

CHARLES.—At Iscoed, Swansea, on March 30th, Henry Evans Charles, M.R.C.S. Eng.

PHILLIPS.—On March 27th, at 39, Albany Villas, Hove, after a few days' illness, Lawrence Willmer Kingiake Phillips, M.D., second son of Barclay Phillips of 7, Harpur-place, Bedford.

Notes, Short Comments, and Answers to Correspondents.

A RETIRED MEDICAL MAN AND GOOD OPENINGS.

WE publish below a communication from Dr. Jay, who tells us in his covering letter that he is "prepared for a fair fight," adding "if you suppress my reply I shall be compelled to seek another channel." The references to a fair fight and to suppression are due to the fact that we have previously received letters from Dr. Jay of a scurrilous nature, which we have refused to publish, not because we have the slightest objection to our readers knowing Dr. Jay's bad opinion of us, but because our morals are not now in question. The letter below contains what the other ones did not, an explanation of Dr. Jay's procedure; it is therefore inserted with pleasure and Dr. Jay can publish it also through any other channel which he thinks fit.

To the Editors of THE LANCET.

SIRS,—Having disposed of my practice in Faversham some months since I inserted the following advertisement in one daily and two weekly papers:—

> **Small HOUSE wanted in the country with garden,** within 25 miles of the City, not far from a railway station, and where a medical man would be appreciated. Send rent and particulars to Betts, 6, Stone St., Faversham.

I had a hundred replies at least from medical men, builders, house agents, auctioneers, surveyors, and private individuals residing within the distance I named, as well as many beyond. I should say that 20 or more, owing to a phenomenal increase of population and other causes, offered an excellent chance for starting in practice without interfering with the rights or vested interests, as I suppose you would call them, of men already upon the spot, many of whom had themselves started without purchase. That we have a right to go where we like to practise cannot be disputed, even should it be in Harley-street. The risk is with us, and it is utter nonsense to say in these days, when the profession is overcrowded and many men without the means to purchase, that a man is not to make a start for himself. With this in my mind, I have placed before young doctors some of the opportunities which presented themselves, for which I have received many letters of thanks. I have visited and investigated the possibilities of success which has been attended with expense, and by charging a nominal premium I try to recoup myself.

I repeated my advertisement with a still wider scope in my own interest, as I had a desire to settle again in the Eastern Counties, when I received more replies than in the first instance. Some were from populous villages with no doctor within five miles and several villages around similarly situated, begging me to take up residence with them. You will perceive I had no occasion to attempt to sell No. 369 to No. 368, as you suggest, and which I defy you to prove I have attempted to do. I replied to No. 369 upon my own behalf, thinking it might suit me, but have not offered it to anyone with a view to profit, I had no occasion to do so, my desk being strewn with better things.

Your discharge of a public duty, as you term it, has, in this instance, been accompanied by an unpleasant seat upon a "mare's nest."

I think I am entitled to an ample apology for the attack you have made upon me. I ignore the title of people who have never been in practice to dictate rules of conduct for medical practitioners and so express them as to bring medical men into disrepute with their neighbours. Your method seems to be suggestive. I fail to find that you have proved a single instance of unprofessional conduct. Random accusations have no legal value.

Yours truly,

Faversham, April 2nd, 1907. F. FITZHERBERT JAY.

We disapprove of Dr. Jay's method and of the use to which he has put our advertisement columns. We shall take what steps we can to provide that the latter do not offer him further opportunities.

ZAM-BUK.

To the Editors of THE LANCET.

SIRS,—Something really ought to be done re the sale of "quack" remedies such as the above. A woman in this village was advised by a neighbour to apply some Zam-buk for a sprained muscle. A painful vesicular eruption has been the result over the whole area where applied, and now the whole body is covered with a painful irritable rash. The constitutional symptoms are pronounced, fainting attacks being the most important, with general prostration. I know of another victim, but conclude that the present case is as good an example as any for the purpose in view.

I am, Sirs, yours faithfully,

FRANCIS G. BENNETT.

Great Glenn, Leicester, March, 31st, 1907.

Enquirer.—Protopine was discovered in 1871 by Hesse in opium, but it has since been found in a large number of other plants, including most plants of the widely distributed natural order Papaveraceæ and *Argemone Mexicana*. At first the identity of the alkaloid obtained from these different sources was not recognised, hence it was known as "argemonine" when prepared from argemone and as "fumarine" when obtained from various members of the natural order Papaveraceæ. Protopine is mentioned in Merck's list, dated November, 1906, as "Protopin, pure, precipitated from opium"; no price is quoted. According to Cushny's "Text-Book of Pharmacology," fourth edition, protopine differs from morphine in its pharmacological action. In frogs small doses produce a narcotic condition similar to that following the injection of morphine, but the reflex irritability does not show the same exaggeration afterwards; larger doses cause complete paralysis of the whole central nervous system. In mammals no depression occurs, but the administration of protopine is followed by restlessness and eventually by convulsions which do not seem to be of spinal origin but rather suggest a stimulation of the cerebrum and mid-brain. The heart is slow and weak and large doses of the drug cause some depression of the vaso-motor centres. The respiration appears to be accelerated, except by large doses of protopine. A further difference between the action of morphine and protopine is found in the marked action of the latter on striated muscles, which subsequently react to electric shocks by a series of rapid contractions and relaxations, no real tetanus being produced. A fairly thorough search through the literature has not elicited further information concerning protopine.

H. E. C.—We understand that if the husband brought a suit, not for divorce but for annulment of the marriage, in all probability the court would order the wife to submit to inspection and on her refusal would assume her incapacity and make a decree of nullity. The matter is, however, as our correspondent says, a purely legal one, and the man in question should certainly obtain legal advice.

Ethics.—The General Medical Council forbids the employment of unqualified assistants, except when they work directly under their employer's eye, for instance, as a pupil or as assistant in a surgery. If the facts are as our correspondent states, A is contravening the order of the General Medical Council.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (8th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Clinical Meeting. Cases will be exhibited by Dr. Chapman, Dr. Parkinson, Dr. Voelcker, Dr. Poynton, Dr. P. Weber, Dr. Clutterbuck, Mr. J. M. Donagh, and others.

TUESDAY (9th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Major L. Rogers, I.M.S.: (1) The Early Diagnosis and Cure of the Pre-suppurative Stage of Amœbic Hepatitis; (2) A Common Sporadic Seven-day Fever of Indian Ports simulating Dengue.

WEDNESDAY (10th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M.: Adjourned Discussion on the Present Position of the Treatment of Tuberculosis by Marine Climates (opened by Dr. A. Street, Westgate-on-Sea). Paper:—Dr. N. H. Forbes: Church Stretton as a Health Resort.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M.: Meeting.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M.: Discussion on Epilepsy. First Evening: Dr. F. Beach (Historical), Dr. G. Holmes (Pathology), Dr. P. Stewart (Masked Epilepsy), Dr. Mercier (Epileptic Insanity).

THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Mr. B. Jessett and Dr. Swanton. Paper:—Prof. Jacobs (Brussels): The Radical Cure of Prolapsus Uteri.

FRIDAY (12th).—WIMBLEDON AND DISTRICT MEDICAL SOCIETY (Worple Hall, Worple-road, Wimbledon).—9 P.M.: Paper:—Mr. H. Tilley: The Diagnosis and Treatment of Certain Nasal Diseases frequently met with in General Practice.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Papers:—Mr. G. H. Makins and Mr. P. Sargent: A Note on the Value of Anti-colon Bacillus Serum.—Mr. L. McGavin: A Modification of the Method of applying Prepared Filigree of Silver Wire to the Cure of Large Inguinal Herniæ in Males.—Mr. W. G. Spencer: Acute Solitary Suppuration in the Psoas and Iliacus Muscles.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: College re-opens.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham), Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

TUESDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Campbell: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. T. Williams: Laennec and the Evolution of the Stethoscope.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). Demonstration on Fevers (Dr. F. Thomson at the North-Eastern Fever Hospital, St. Ann's-road, N.W.).

WEDNESDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Clarke: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. N. Tirard: Some Recent Cases of Hæmaturia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Mr. J. Atkinson: External Ear.

THURSDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. M. Morris: The Treatment of Some Common Skin Affections.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel).

FRIDAY (12th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. S. Stephenson: Clinique. (Eye.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

SATURDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 4th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 29	30·20	E.	...	103	66	40	41	43	Fine
,, 30	30·05	S.E.	...	80	64	41	46	49	Foggy
,, 31	29·92	S.	...	106	69	42	46	49	Fine
April 1	29·93	S.	...	107	67	43	47	50	Hazy
,, 2	29·58	S.W.	...	107	67	42	46	47	Cloudy
,, 3	29·22	S.W.	...	106	58	47	50	53	Cloudy
,, 4	29·34	W.	...	88	53	43	44	46	Fine

During the week marked copies of the following newspapers have been received:—*Mexborough and Swinton Times, Sheffield Daily Telegraph, Newcastle Daily Journal, Morning Post, Standard, Daily Mail, Daily News, Tribune, Manchester Courier, Daily Telegraph, Morning Leader, Coventry Standard, Aberdeen Gazette, Birmingham Gazette, Liverpool Echo, St. Pancras Gazette, Birmingham Herald, Sheffield Evening Telegraph, &c.*

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